DOE/EA-1744

FINAL
ENVIRONMENTAL ASSESSMENT

FOR

BREA POWER II, LLC'S
OLINDA COMBINED CYCLE ELECTRIC GENERATING PLANT FUELED BY WASTE LANDFILL GAS, BREA, CALIFORNIA

U.S. Department of Energy
National Energy Technology Laboratory

October 2010

ACRONYMS AND ABBREVIATIONS

CEQA	*California Environmental Quality Act*
CFR	*Code of Federal Regulations*
CHP	combined heat and power
CO	carbon monoxide
dBA	A-weighted decibel
DOE	U.S. Department of Energy (also called the Department)
EA	environmental assessment
EPA	U.S. Environmental Protection Agency
kWh	kilowatt-hour
mmscfd	million standard cubic feet of landfill gas per day
MW	megawatt
MWh	megawatt-hour
NAAQS	National Ambient Air Quality Standards
NEPA	*National Environmental Policy Act*, as amended
NO_2	nitrogen dioxide
NO_x	nitrogen oxides
O_3	ozone
OC W&R	Orange County Waste and Recycling
Pb	lead
PM_{10}	particulate matter with an aerodynamic size less than or equal to 10 microns
$PM_{2.5}$	particulate matter with an aerodynamic size less than or equal to 2.5 microns
SCE	Southern California Edison
SO_2	sulfur dioxide
Stat.	*United States Statute at Large*
U.S.C.	United States Code
USFWS	U.S. Fish and Wildlife Service
VOC	volatile organic compound

Note: Numbers in this EA generally have been rounded to two or three significant figures. Therefore, some total values might not equal the actual sums of the values.

COVER SHEET

Responsible Agency: U.S. Department of Energy (DOE)

Title: *Final Environmental Assessment for Brea Power II LLC's Olinda Combined Cycle Electric Generating Plant Fueled by Waste Landfill Gas, Brea, California* (DOE/EA-1744)

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Abstract: DOE prepared this EA to evaluate the potential environmental consequences of providing an *American Recovery and Reinvestment Act of 2009* (Recovery Act; Public Law 111-5, 123 Stat.115) financial assistance grant to Brea Power II, LLC (Brea Power; formerly Ridgewood Renewable Power, LLC). The grant would facilitate expansion of an existing landfill gas collection system, and construction and operation of a combined cycle power generation facility at the Olinda Alpha Landfill in Brea, California.

DOE's proposed action is to provide $10 million in financial assistance in a cost-sharing arrangement with the project proponent, Brea Power. The cost of the project is estimated to be about $84 million. The primary objective of Brea Power's proposed project is to maximize the productive use of substantial quantities of waste landfill gas generated and collected at the Olinda Alpha Landfill in Brea, California. The project proponent determined that utilization of the waste gas for power generation in a combustion turbine combined cycle facility was the best use for the gas. The electricity generated from the proposed project, a net output of approximately 280 kilowatt-hours of electricity annually, would be distributed to the local power grid via a new electric transmission line to be installed by the local utility company. Brea Power would expand the existing gas collection system at the landfill and build the new gas-to-energy facility across the street from the existing gas-to-energy facility. Once the new facility is operational, the existing facility would be used only as a contingency.

This EA evaluates 14 resource areas and, after proposed mitigation measures, identifies no significant adverse environmental impacts for the proposed project. Beneficial impacts to the nation's energy efficiency and local economy could be recognized. The project would generate 280 kilowatt-hours of electricity annually, and save an estimated 2,216 trillion British thermal units per year annually from the landfill gas that would otherwise be flared. In addition, by using nearly 50,000 tons per year of methane from the landfill gas, the project would provide carbon

dioxide equivalent reductions of greater than 1 million tons annually and enable the avoidance of over 120,000 tons of carbon dioxide per year from not using fossil fuels for generating a similar amount of electricity.

Availability: DOE encourages public participation in the *National Environmental Policy Act of 1969* (NEPA) process. A Notice of Availability was placed in the *Orange County Register* on May 29, 30, and 31, 2010. The draft EA was made available for public review from May 29, 2010 through June 14, 2010 at the Orange County Public Library - Brea Library, 1 Civic Center Circle, Brea, California.

The draft EA was also available on DOE's National Energy Technology Laboratory (NETL) web site and was mailed to individuals and agencies listed in Appendix A. This final EA is available on DOE's NETL web site at (http://www.netl.doe.gov/publications/others/nepa/ea.html).

The public was encouraged to submit comments to DOE address listed above by the close of the comment period, June 14, 2010. Reviewers were also given the option of submitting comments by fax or email. No public comments were received on the draft EA.

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SUMMARY

The U.S. Department of Energy (DOE) proposes to award a financial assistance grant under the *American Recovery and Reinvestment Act of 2009* to Brea Power II, LLC (formerly Ridgewood Renewable Power, LLC). The grant would facilitate modification and expansion of an existing landfill gas collection system and construction and operation of a combined cycle power generation facility at the Olinda Alpha Landfill in Brea, California. DOE's proposed action in this environmental assessment is to provide a financial assistance grant under a cost-sharing arrangement in order to increase the use of landfill gas to generate power. The project would generate 280 kilowatt-hours of electricity annually, and save an estimated 2,216 trillion British thermal units annually from the landfill gas that would otherwise be flared.

In compliance with the *National Environmental Policy Act* (NEPA) (42 U.S.C. Section 4321 et seq.) and DOE's NEPA implementing regulations (10 CFR Part 1021) and procedures, this environmental assessment examines the potential environmental impacts of DOE's proposed action, Brea Power's proposed project, and the No-Action Alternative. The purpose of this environmental assessment (EA) is to inform DOE and the public of the potential environmental consequences of the proposed project and the alternatives.

In this EA, DOE analyzed impacts to air quality; noise; aesthetics and visual resources; geology and soils; water resources; biological resources; cultural resources; socioeconomics; utilities, energy, and materials; and transportation.

The proposed gas-to-energy facility would be built within the existing Olinda Alpha Landfill property. The proposed project would also include three off-site construction components along Valencia Avenue for site utilities. Construction and operation of the proposed facility would cause emissions of some criteria air pollutants. However, air pollutant concentrations would not exceed significance thresholds and would have a negligible impact on air quality. Landfill gas consists largely of methane, which is a very potent greenhouse gas. The proposed project would convert waste landfill gas into a resource (energy). By using nearly 50,000 tons per year of methane from the landfill gas, the project would result in carbon dioxide equivalent reductions greater than 1 million tons annually. Additionally, an indirect benefit would be an avoidance of over 120,000 tons of carbon dioxide emissions per year from not using fossil fuels for generating a similar amount of electricity.

Residences at the nearby Olinda Ranch residential community could be subject to minor, short-term adverse impacts from noise generated during construction of the proposed utility alignments along Valencia Avenue. Construction would occur only during normal daylight hours in compliance with the City of Brea's regulations. The noise would be kept to a minimum by using only the necessary equipment. To minimize noise disturbance, the staging area for the sewer line construction would be placed as far as feasible from the residential homes. For operations, noise modeling results indicate that the noise contribution of the new facility at the nearest Olinda

Ranch location would be less than the existing ambient noise and no measureable (or perceptible) noise increase was calculated.

The proposed project would cause minor short-term visual impacts resulting from ground disturbance and the presence of workers, vehicles, and equipment and the generation of dust and vehicle exhaust associated with construction of the proposed facility and off-site components along Valencia Avenue. Once construction is complete, reclamation of disturbed areas would remove these visual impacts. In the long term, the aesthetics of the area would be expected to remain the same and would not be adversely impacted due to the high elevation of the site, the surrounding topography, the distance to any sensitive receptor, and the visual shielding that would encompass the site.

The proposed facility would be constructed on engineered fill and no excavation of native soil would be required for the on-site portion of the proposed project. Construction of the transmission line would require no new excavation. The proposed project would be within a previously disturbed area devoid of agricultural resources and would not require any modifications that would convert classification of farmland to non-agricultural use.

The proposed project would not substantially increase the rate or amount of surface water runoff, nor would the project result in substantial erosion or siltation. The proposed project would be required to comply with the National Pollutant Discharge Elimination System program and obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit 99-08-DWQ). As part of the National Pollutant Discharge Elimination System permitting, Brea Power II, LLC would prepare a storm water pollution prevention plan for the project. The facility currently complies with and would continue to comply with all relevant water quality standards and waste discharge regulations. The proposed project would not result in the depletion of groundwater supplies and would not interfere with groundwater recharge. In addition, no wetlands or floodplains are present at the proposed site.

The proposed project would result in the removal of approximately 0.28 acre of coastal sage scrub habitat which is not only a sensitive habitat but also habitat for the federally listed threatened coastal California gnatcatcher. A Mitigated Negative Declaration 515 will allow for an off-site coastal sage scrub restoration program whereby Brea Power II, LLC would pay the Puente Hills Landfill Native Habitat Preservation Authority (Habitat Authority) to restore coastal sage scrub within the Puente-Chino Hills preservation lands. Through the agreement, the Habitat Authority would restore up to 0.5 acre, and a minimum of 0.28 acre, of coastal sage scrub habitat within the Habitat Authority's preservation area to mitigate for the loss of coastal sage scrub habitat due to the project construction. The Habitat Authority would be responsible for the installation, maintenance and long-term monitoring of the coastal sage scrub restoration site. These compensatory mitigation measures would ensure that coastal sage scrub habitat impacts would not be considered significant. DOE has completed consultation with the U.S. Fish and Wildlife Service (USFWS). The USFWS concurred that with consideration of the mitigation

measures, the project may affect, but is not likely to adversely affect, coastal California gnatcatcher critical habitat.

Short-term beneficial socioeconomic impacts would occur from construction-related jobs. Long-term employment created through implementation of this project to maintain operation of the plant/equipment and infrastructure is estimated to be 27 full-time equivalents from the local area.

No impacts to cultural resources are expected. DOE initiated consultation with the California Department of Parks and Recreation, Office of Historic Preservation and requested any additional information that office has developed or obtained on historic properties in the vicinity of the project site. In July and August 2010, DOE performed a cultural resources literature search, as requested by the Office of Historic Preservation. A letter dated September 29, 2010, from the State Historic Preservation Office supported DOE's determination that no historic properties would be affected by the proposed project. According to a database maintained by the Housing and Urban Development Office of Community Planning and Development, there are no federally recognized tribes with interests in Orange County, California. On April 7, 2010, DOE submitted a Sacred Lands File Search and Native American Contacts List Request to the Native American Heritage Commission. Its April 26, 2010 response indicated no Native American cultural resources within 0.5 mile of the proposed project site. DOE initiated consultation with the Native American tribes on the contact list provided by the Native American Heritage Commission. No tribal responses were received.

To maintain access north of the Valencia Avenue/Sandpiper Way intersection during off-site utility construction, at least one travel lane would be available at all times by the use of traffic control construction workers. This commonly used construction practice would provide access to and from Sandpiper Way and Santa Fe Road at all times. Once operational, the proposed project would not alter the current existing transportation setting as it would add only three or four additional full-time permanent employees to the current four full-time employees. Truck deliveries would not increase.

No adverse impacts to land use, environmental justice, utility systems, hazardous and solid waste management, or occupational health and safety would occur.

Under the No-Action Alternative, DOE would not provide funding to Brea Power II, LLC for its proposed project. For the purposes of this analysis, DOE assumes that the project would not proceed or would be delayed as Brea Power looked for other funding sources. No impacts to the existing environment would occur, and beneficial impacts of the proposed project would not be realized.

1. INTRODUCTION

Brea Power II, LLC (Brea Power; formerly Ridgewood Renewable Power, LLC) proposes to expand an existing landfill gas collection system and construct and operate a combined cycle power generation facility at the Olinda Alpha Landfill in Brea, California. In order to facilitate this project, the U.S. Department of Energy (DOE or the Department) is considering providing Brea Power with a competitively awarded grant under Funding Opportunity Announcement (DE-FOA-0000044), *Recovery Act: Deployment of Combined Heat and Power (CHP) Systems, District Energy Systems, Waste Energy Recovery Systems, and Efficient Industrial Equipment*. DOE will make its decision after evaluating the potential environmental impacts and other aspects of Brea Power's proposed project.

As part of the *American Recovery and Reinvestment Act of 2009* (the Recovery Act; Public Law 111-5, 123 Stat. 115), as amended, the U.S. Department of Energy's (DOE's or the Department's) National Energy Technology Laboratory, on behalf of the Office of Energy Efficiency and Renewable Energy's Industrial Technologies Program, is providing up to $156 million in federal funding for competitively awarded grants for the deployment of projects for district energy systems, combined heat and power (CHP) systems, waste energy recovery systems, and energy-efficient industrial equipment and processes at single installations or multiple installations at multiple sites. The funding of these projects requires compliance with the *National Environmental Policy Act of 1969*, as amended (NEPA; 42 U.S.C. 4321 et seq.), Council on Environmental Quality regulations (40 CFR Parts 1500 to 1508), and DOE NEPA implementing regulations (10 CFR Part 1021).

The Department selected a project proposed by Brea Power for funding under the Industrial Technologies Program and in response to Funding Opportunity Announcement DE-FOA-0000044. To comply with NEPA, DOE prepared this *Final Environmental Assessment for Brea Power II, LLC's Olinda Combined Cycle Electric Generating Plant Fueled by Waste Landfill Gas, Brea, California* (EA). The EA examines the potential environmental consequences of DOE's proposed action, to provide a financial assistance grant, Brea Power's proposed project, and the No-Action Alternative, under which it is assumed that, as a consequence of DOE's denial of financial assistance, Brea Power would not proceed with the project.

This chapter explains NEPA and related procedures (Section 1.1), the background of this project (Section 1.2), the Department's purpose and need for action (Section 1.3), the environmental resources DOE did not carry forward for detailed analysis (Section 1.4), and the consultation and public comment-response processes (Section 1.5). Chapter 2 discusses DOE's proposed action, Brea Power's proposed project, and the No-Action Alternative. Chapter 3 details the affected environment and the potential environmental consequences of the proposed project and of the No-Action Alternative. Chapter 4 addresses cumulative impacts, and Chapter 5 provides DOE's conclusions from the analysis. Chapter 6 lists the references for this document. Appendix A contains the distribution list and Appendix B contains consultation letters. Appendix C contains

a compensatory mitigation agreement and Appendix D contains a Cultural Resources Literature Search.

1.1 National Environmental Policy Act and Related Procedures

In accordance with DOE NEPA implementing procedures, DOE must evaluate the potential environmental impacts of its proposed actions and funding decisions that may have a significant impact on human health and the environment. In compliance with NEPA regulations and DOE's procedures, this EA:

- Examines the potential environmental impacts of the proposed action and the No-Action Alternative;
- Identifies unavoidable adverse environmental impacts of the proposed action;
- Describes the relationship between local short-term uses of the environment and the maintenance and enhancement of long-term productivity; and
- Characterizes any irreversible and irretrievable commitments of resources that would be involved should DOE decide to implement its proposed action.

DOE must meet these requirements before it can make a final decision to proceed with any proposed federal action that could cause adverse impacts to human health or the environment. This EA fulfills DOE's obligations under NEPA and provides DOE with the information needed to make an informed decision about helping finance expansion of the existing landfill gas collection system and the construction and operation of a combined cycle power generation facility at the Olinda Alpha Landfill in Brea, California.

This EA evaluates the potential individual and cumulative impacts of Brea Power's proposed project. No other action alternatives are analyzed. For purposes of comparison, this EA also evaluates the impacts that could occur if DOE did not provide funding (the No-Action Alternative), under which DOE assumes that Brea Power would not proceed with the project. This assumption might be incorrect—that is, Brea Power might proceed without federal assistance. However, this assumption allows DOE to compare the impacts of an alternative in which the project occurs with one in which it does not.

1.2 Background of the Industrial Technologies Program

DOE's National Energy Technology Laboratory manages the research and development portfolio of the Industrial Technologies Program for the Office of Energy Efficiency and Renewable Energy. The mission of the Industrial Technologies Program is to establish U.S. industry as a world leader in energy efficiency and productivity. The program leads the national effort to reduce industrial energy intensity and carbon emissions, and strives to transform the way U.S. industry uses energy by supporting cost-shared research and development that addresses the top energy challenges facing industry. In addition, the Industrial Technologies Program fosters the

adoption of advanced technologies and energy management best practices to produce meaningful progress in reducing industrial energy intensity.

Congress appropriated significant funding for the Industrial Technologies Program in the Recovery Act to stimulate the economy and reduce unemployment in addition to furthering the objectives of the existing program. DOE solicited applications for this funding by issuing a competitive Funding Opportunity Announcement (DE-FOA-0000044), *Recovery Act: Deployment of Combined Heat and Power (CHP) Systems, District Energy Systems, Waste Energy Recovery Systems, and Efficient Industrial Equipment*, in June, 2009. The announcement invited applications in four areas of interest:

- Area of Interest 1 – Combined Heat and Power; the generation of electric energy and heat in a single, integrated system, with an overall thermal efficiency of 60 percent or greater on a higher-heating-value basis.

- Area of Interest 2 – District Energy Systems; systems providing thermal energy from a renewable energy source, thermal energy source, or highly efficient technology to more than one building or fixed energy-consuming use from one or more thermal energy production facilities through pipes or other means to provide space heating, space conditioning, hot water, steam, compression, process energy, or other end uses.

- Area of Interest 3 – Industrial Waste Energy Recovery; the collection and reuse of energy from sources such as exhaust heat or flared gas from any industrial process; waste gas or industrial tail gas that would otherwise be flared, incinerated, or vented; or a pressure drop in any gas, excluding any pressure drop to a condenser that subsequently vents the resulting heat.

- Area of Interest 4 – Efficient Industrial Equipment; any proven commercially available technology that can provide a minimum 25-percent efficiency improvement to the industrial sector.

DOE announced its selections on November 3, 2009, with multiple awards in three of the four areas of interest. DOE selected nine projects based on the evaluation criteria in the funding opportunity announcement and gave special consideration to projects that promoted the objectives of the Recovery Act—job preservation or creation and economic recovery—in an expeditious manner.

The proposed project considered in this EA, the Olinda Combined Cycle Electric Generating Plant Fueled by Waste Landfill Gas in Brea, California, was one of the nine projects DOE selected for funding. The Department's proposed action would provide a $10 million financial assistance grant under a cost-sharing arrangement with Brea Power. The total cost of the proposed project is estimated at $84 million.

1.3 Purpose and Need

The purpose of the proposed action is to support the mission of DOE's Industrial Technologies Program and the goals of the Recovery Act. The mission of the Industrial Technologies Program is to have U.S. industry lead the world in energy efficiency and productivity. The Program leads the national effort to reduce industrial energy intensity and carbon emissions, and strives to transform the way U.S. industry uses energy by supporting cost-shared research and development that addresses the top energy challenges facing industry. Additionally, the Program fosters the adoption of today's advanced technologies and energy management best practices to produce meaningful progress in reducing industrial energy intensity.

The Industrial Technologies Program's three-part strategy pursues this mission by:

- Sponsoring research, development, and demonstration of industry-specific and crosscutting technologies to reduce energy and carbon intensity;
- Conducting technology delivery activities to help plants access today's technology and management practices; and
- Promoting a corporate culture of energy efficiency and carbon management within industry.

To align with its mission, the program has established a goal of achieving a 25-percent reduction in industrial energy intensity by 2017, guided by the *Energy Policy Act of 2005*. The strategy also calls for an 18-percent reduction in U.S. carbon intensity by 2012. The Department seeks to identify projects and technologies that it can fund to meet this goal.

In June 2009, DOE initiated a process to identify suitable projects by issuing Funding Opportunity Announcement DE-FOA-00000044, "Recovery Act: Deployment of Combined Heat and Power (CHP) Systems, District Energy Systems, Waste Energy Recovery Systems, and Efficient Industrial Equipment." This Funding Opportunity Announcement is funded by the Recovery Act.

The Recovery Act seeks to create jobs, restore economic growth, and strengthen America's middle class through measures that modernize the nation's infrastructure, enhance America's energy independence, expand educational opportunities, preserve and improve affordable health care, provide tax relief, and protect those in greatest need. Provision of funds under this Funding Opportunity Announcement would achieve these objectives.

The capital cost of new equipment is often a roadblock for use of more efficient equipment and processes. Although the newer technologies would provide lower energy requirements and operating costs, the payback period for some technologies does not meet internal business goals. DOE's provision of financial assistance allows companies to reduce the payback period, making these new technologies an acceptable option for them.

1.4 Environmental Resources Not Carried Forward

Chapter 3 of this EA describes the affected environment and examines the potential environmental impacts of the proposed project and the No-Action Alternative for the following environmental resource areas:

- Air Quality
- Noise
- Aesthetics and Visual Resources
- Geology and Soils
- Water Resources
- Biological Resources
- Cultural Resources
- Socioeconomics
- Utilities, Energy, and Materials
- Transportation

DOE EAs also commonly address the environmental resource areas listed in Table 1-1. However, in an effort to streamline the NEPA process and enable timely financial awards to the selected projects, DOE is not examining the areas in the table at the same level of detail as the above-mentioned ten disciplines. Table 1-1 describes the Department's screening evaluation of these other resource areas. In each case, no impacts are anticipated. Therefore, DOE determined that further analysis is unnecessary. In terms of the No-Action Alternative, the impacts would not occur because DOE assumes the proposed project would not proceed.

The focus of the more detailed analyses in Chapter 3 is on those environmental resource areas that would require new or revised permits, have the potential for significant adverse environmental impacts, or have the potential for controversy.

Table 1-1. Environmental resource areas not carried forward.

Environmental resource area	Impact consideration and conclusions
Land Use	Land use designation for the project site is 4LS (Public Facilities; Landfill Site Overlay). Construction of the gas collection system and new gas-to-energy facility would be confined to the existing landfill sites and hence would not disrupt or divide the physical layout of an existing community. The project would not change the existing or proposed use of the sites or their relation to adjacent land uses. The proposed project is consistent with the current land use (e.g., landfill operations).
Occupational Health and Safety	All site modifications initiated by the facility would be implemented without impacting operational safety procedures or practices regarding the transportation, use and disposal of hazardous materials. Standard Occupational Safety and Health Administration (OSHA) procedures would be followed during construction and operations.

Table 1-1. Environmental resource areas not carried forward (continued).

Environmental resource area	Impact consideration and conclusions
Environmental Justice	Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, directs federal agencies to "promote nondiscrimination in Federal programs substantially affecting human health and the environment, and provide minority and low-income communities with access to public information on, and an opportunity for public participation in, matters relating to human health or the environment." Executive Order 12898 also directs agencies to identify and consider disproportionately high and adverse human health or environmental impacts of their actions on minority and low-income communities and American Indian tribes, as well as provide opportunities for community input to the NEPA process, which includes input on potential effects and mitigation measures. Executive Order 12898 and its associated implementing guidance establish the framework for characterization of the affected environment for environmental justice. According to the 2000 U.S. Census data, no minority or low-income communities occur within the region of influence of the proposed project.
Waste	No solid waste or hazardous waste would be generated from the proposed project with the exception of minor amounts of construction debris.

1.5 Consultations and Public Comment-Response Process

1.5.1 CONSULTATIONS

U.S. Fish and Wildlife

DOE initiated consultation with the USFWS Carlsbad Office, on April 6, 2010, and asked for its concurrence with DOE's assessment that the proposed project would have no effect on federally listed species or habitats. A copy of this letter is included in Appendix B. On April 13, 2010, the USFWS concurred with DOE's assessment. Specifically, the USFWS stated that with consideration of the mitigation measures, the project may affect, but is not likely to adversely affect, gnatcatcher critical habitat. On May 29, 2010, DOE sent the draft EA to distribution, including the USFWS. No comments from the USFWS were received.

California Office of Historic Preservation

DOE initiated consultation with the California Department of Parks and Recreation, Office of Historic Preservation on March 22, 2010, and provided further information on May 20, 2010. Copies of these letters are included in Appendix B. On May 29, 2010, DOE sent the draft EA to distribution, including the California Department of Parks and Recreation, Office of Historic Preservation. In June 2010, DOE and the Office of Historic Preservation discussed the proposed

project by teleconference. The Office of Historic Preservation requested additional details on the proposed project as well as a cultural resources literature review for the area within a 1-mile radius of the proposed project, including the transmission line. On September 20, 2010, DOE provided further information, including the results of a cultural resources literature search requested by the Office of Historic Preservation. A letter dated September 29, 2010, from the Office of Historic Preservation supported DOE's determination that no historic properties would be affected by the proposed project. Copies of these letters are included in Appendix B.

Tribes

On April 7, 2010, DOE submitted a Sacred Lands File Search and Native American Contacts List Request to the Native American Heritage Commission. The Commission's April 26, 2010, response indicated no American Indian cultural resources are within 0.5 mile of the proposed project site. DOE initiated consultation with the American Indian tribes on the contact list provided by the Native American Heritage Commission. A copy of DOE's letter is included in Appendix B. On May 29, 2010, DOE sent the draft EA to distribution, including potentially affected tribes. No tribal responses or comments were received.

1.5.2 COMMENT-RESPONSE PROCESS

DOE issued the draft EA for public comment on May 29, 2010, and advertised its release in the *Orange County Register* on May 29, 30, and 31, 2010. The Department sent copies for public review to the Orange County Public Library - Brea Library in Brea, California, and to the persons and agencies listed in Appendix A of this EA. DOE also made the EA available on the National Energy Technology Laboratory web site. The Department established a public comment period that began May 29, 2010, and ended June 14, 2010. The Department announced it would accept comments by mail, email, or facsimile. No comments were received.

2. DOE PROPOSED ACTION AND ALTERNATIVES

This chapter describes DOE's Proposed Action (Section 2.1), Brea Power's proposed project (Section 2.2), the No-Action Alternative (Section 2.3), and DOE's Alternative Actions (Section 2.4).

2.1 DOE's Proposed Action

DOE's proposed action would award a $10 million Recovery Act financial assistance grant to Brea Power. The grant would facilitate the modification and expansion of an existing landfill gas collection system and the construction and operation of a combined cycle power generation facility at the existing Olinda Alpha Landfill in Brea, California. The total cost of the project is estimated at $84 million.

2.2 Brea Power II, LLC's Proposed Project

Brea Power's proposed project would expand the existing landfill gas collection system at the Olinda Alpha Landfill, and construct and operate a combined cycle power generation facility. The primary objective of the proposed project is to maximize the productive use of substantial quantities of waste landfill gas generated and collected at the Olinda Alpha Landfill in Brea, California. Utilization of the waste gas for power generation in a combustion turbine combined cycle facility was selected as the best use for the gas. The power generated from the proposed project, a net output of approximately 280 kilowatt-hours (kWh) of electricity annually, would be distributed to the local power grid via a new electric transmission line to be installed by Southern California Edison (SCE).

MEASUREMENTS OF ELECTRICITY

Most electric companies charge for the number of kilowatt hours used. A megawatt hour is 1,000 kilowatt hours (kWh).

With Southern California's average annual residential usage being about 8,000 kWh, the new facility would generate enough electricity on average for the annual electrical needs of about 35,000 residences.

The proposed project site would be located within the Olinda Alpha Landfill property, which is a currently operating landfill. The Olinda Alpha Landfill is located in unincorporated Orange County, north of the city of Brea, approximately 0.5 mile north of the intersection of Valencia Avenue and Carbon Canyon Road. The street address for the landfill is 1942 North Valencia Avenue, Brea. The landfill location is shown on Figure 2-1.

Project Background. The Olinda Alpha Landfill is a solid waste landfill owned and operated by Orange County Waste & Recycling (OC W&R). This Class III solid waste landfill is permitted to accept up to 8,000 tons of solid waste per day (up to 7,000 tons per day as measured on an annual average). The landfill opened in 1960 and accepts Class III solid waste materials consisting of mixed municipal and residential solid wastes. The landfill's remaining capacity is estimated at 30 million cubic yards, as of June 30, 2008. The estimated closure date for the landfill is 2021. Existing environmental control systems for the landfill include storm water

Figure 2-1. Site location map.

collection and control system, leachate collection/groundwater protection system, landfill gas collection and control system and a gas-to-energy facility operated by combustion engines (OC W&R 2009). The existing landfill gas-to-energy facility (i.e., the Olinda Alpha Landfill Gas-to-Energy Facility), was developed in the early 1980s to convert the landfill gas and generate approximately 5 megawatts (MW) of electricity. That facility is still in operation today, as shown in Figure 2-2, but only converts approximately 25 percent of the available landfill gas into electricity. The balance of the landfill gas is combusted in three flares. Brea Power is currently proposing to expand its existing facility to make beneficial use of the excess landfill gas, a valuable renewable energy source. This modification would be partially funded by DOE and is the subject of this analysis.

Proposed Modification. The proposed project would modify operations at the facility after the landfill gas is captured from existing onsite wells. Planned construction would include new buildings, water, sewer, and electrical infrastructure, storage tanks, and pipelines and the installation of power-generating equipment.

The proposed project site is located approximately 550 feet from the existing gas-to-energy facility. The proposed site is approximately 1 acre, is on engineered fill, and has been completely graded. The project site is located adjacent to two existing 100,000-gallon water storage tanks. The proposed project design is shown on Figure 2-3.

Similar to existing conditions, for the proposed project, landfill gas that is collected by the existing gas collection system would be transported via existing infrastructure to the new gas-to-energy facility, where the gas would be cleaned and scrubbed before being sent to the four turbines that would convert the landfill gas to energy. The energy generated by the turbines would be sent to the City of Anaheim Municipal Utility via existing and new transmission lines. SCE would upgrade the existing transmission lines which are unable to accommodate the additional energy from the new facility.

The proposed project would consist of several specific components:

- The landfill gas collection system would be modified and upgraded to optimize the efficient collection and conveyance of landfill gas to a central processing point.

- A state-of-the-art gas clean up and compression facility would be constructed consisting of dewatering, siloxane removal, and intermediate and high-pressure gas compression.

- A combined cycle electric generating facility would be constructed consisting of four Solar™ Taurus Model 60 combustion turbine generator sets, each of which would be equipped with turbine inlet chilling, heat recovery steam generators, and post combustion emissions reductions systems. The steam produced would be fed to a single steam turbine generator set. The four combustion turbine generator sets would have a total gross generating capacity of 23.59 MW and the steam turbine a gross generating capacity of 8.8 MW.

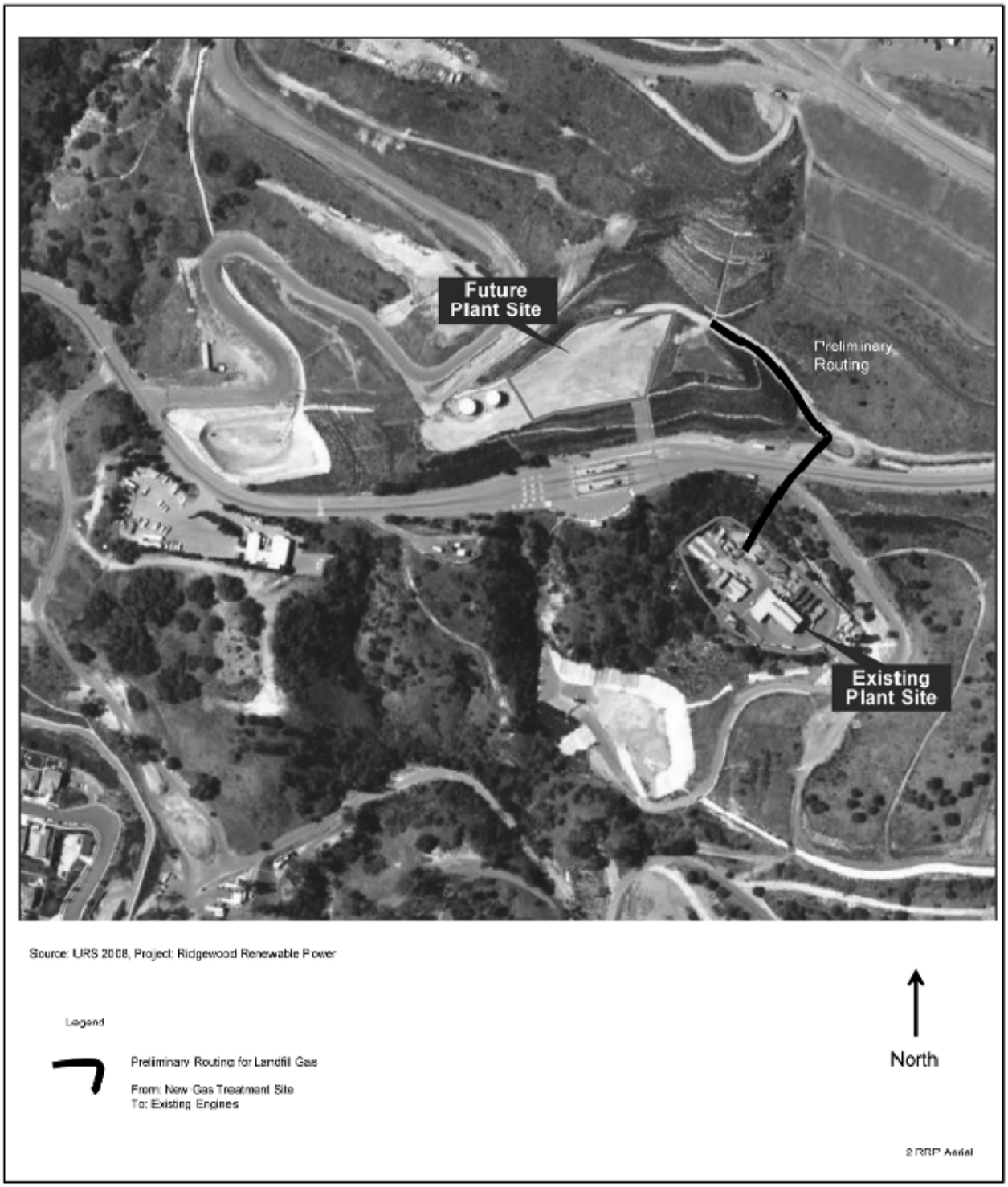

Figure 2-2. Aerial photograph of proposed project site.

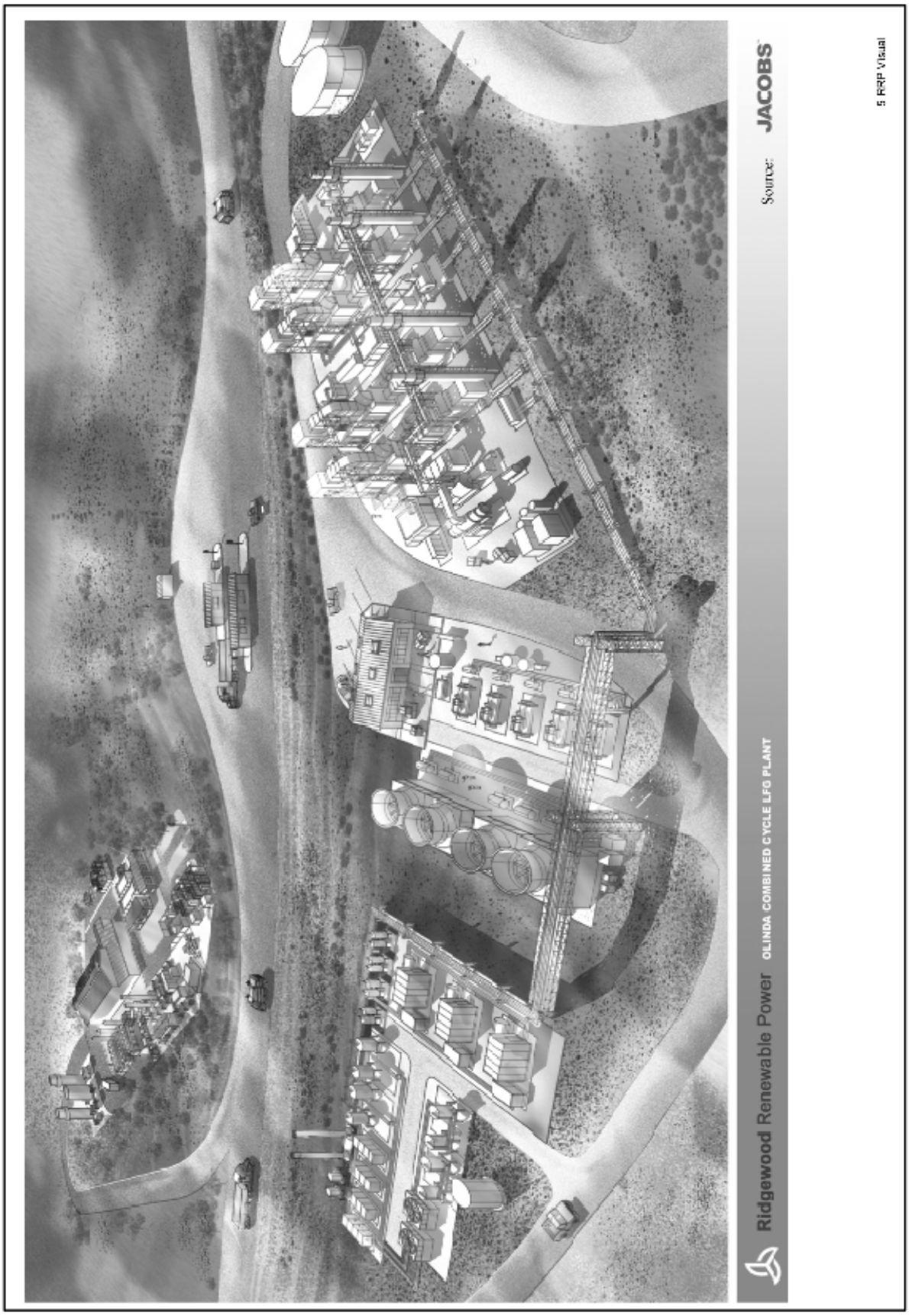

Figure 2-3. Schematic of proposed facility.

- The voltage of the electricity produced would be increased at a newly constructed transformer/substation and the electricity would be delivered to the local transmission system.

The three onsite existing flares and existing internal combustion engines would only be used for waste gases, emergency break downs or gas spikes exceeding the capacity of the turbines. Landfill gas routed to the internal combustion engines and/or flares would be transported from the new facility by a new gas line, as shown on Figure 2-4. No backup fuel source is required for startup of the turbines or for fuel quality augmentation.

Construction activities would not necessarily occur in distinct phases because of the short duration, but would generally occur sequentially. Basically, the concrete pads would be poured, the equipment and modular buildings would be delivered, and the buildings and equipment would be set up and installed. It is assumed that the peak period of construction would be when the equipment and modular buildings are delivered because of the truck trips, and the use of a crane to move the equipment from the flatbed trucks to the concrete pads. Minimal grading of the site would be necessary.

The four turbines would be skid mounted and installed on concrete pads surrounded by a chain link fence. An electrical switchgear and control room would be located adjacent to the concrete pads. A modular building would also be located on site for the plant control system and separate enclosures would be provided for the continuous emissions monitoring systems. All proposed modifications would be conducted within the boundary of the existing landfill facility.

The proposed project also includes three additional off-site construction components along Valencia Avenue: (1) electrical transmission line; (2) fiber optic cable; and (3) sewer connection. Proposed utility alignments are shown in Figure 2-4 and described below.

Electrical transmission line – No new soil excavation would be required for construction of the 6,300-foot, 66-kilovolt transmission line. On Valencia Avenue, between the Brea Substation and Lambert Road, about 1,300 feet of new transmission line would be built over the current line. This work would involve replacing 10 existing 75-foot wood poles with approximately 11 80-foot wood poles in the same locations. On Valencia Avenue, between Lambert Road and the Olinda-Alpha Landfill, a 2,300-foot underground section of the transmission line would be constructed. The work would be done under Valencia Avenue and along the west curb face of the street side of Valencia Avenue. Once inside the Olinda-Alpha Landfill, an existing 2,700-foot section of a 12-kilovolt distribution line would be overbuilt. This work would involve the replacement of approximately 11 55-foot wood distribution poles with approximately 11 80-foot wood transmission poles in the same location and the installation of 2,700 circuit feet of new transmission line. The existing 12-kilovolt distribution circuit would be rebuilt onto the new transmission poles.

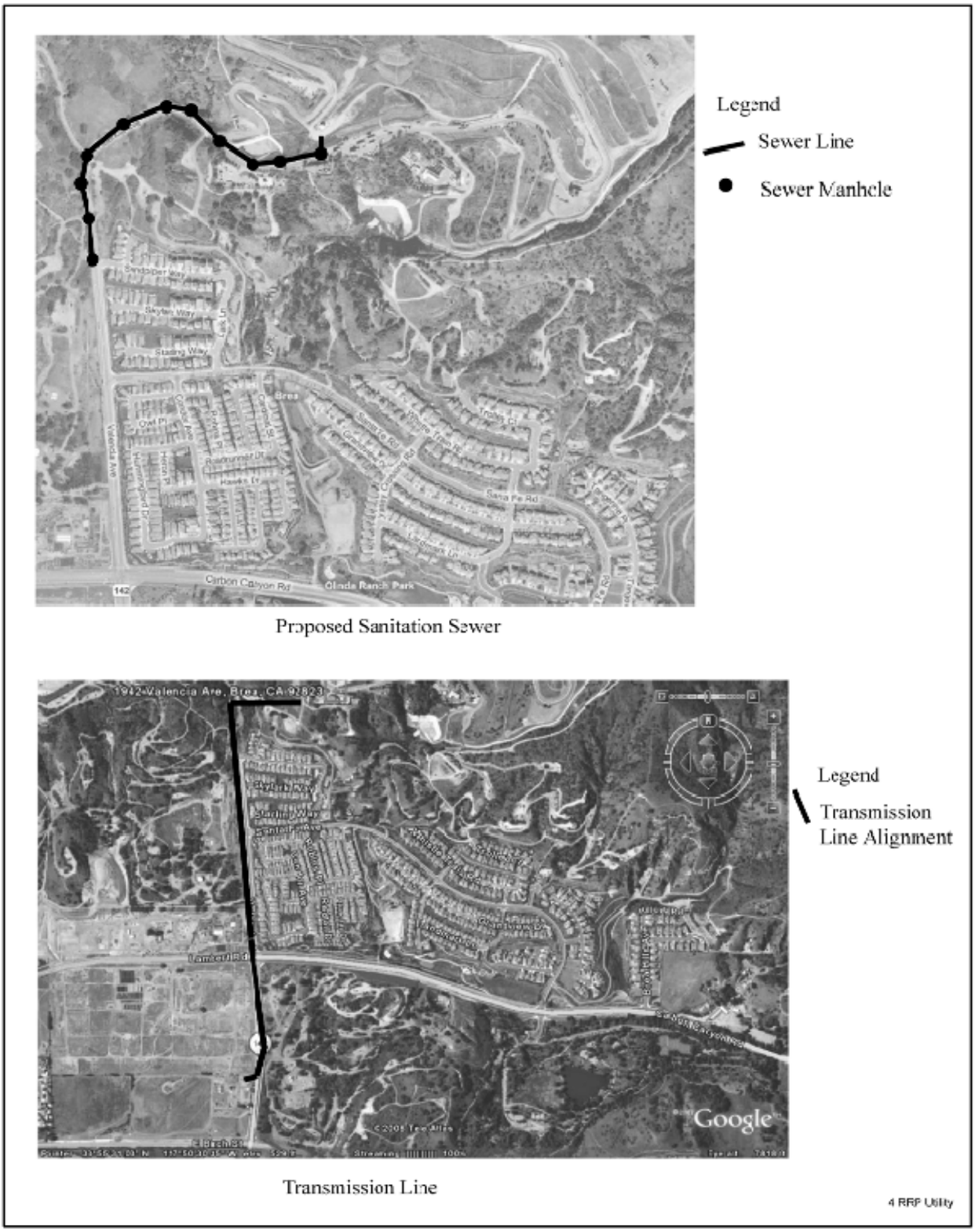

Figure 2-4. Proposed utility alignments.

Fiber optic cable – About 7,900 feet of new fiber optic cable would be installed. The cable would be placed overhead from SCE's Brea Substation to the last wooden pole headed north toward the landfill at the intersection of Valencia Avenue and Carbon Canyon Road. At that point, the cable would go underground along Valencia Avenue to the entrance of the landfill for approximately 2,100 feet.

Sewer – About 2,800 feet of new sewer line would be installed along the existing landfill access road to a connection with the existing City of Brea sewer system at the north end of Valencia Avenue.

2.3 No-Action Alternative

Under the No-Action Alternative, DOE would not provide funds to the proposed project. As a result, this project would be delayed as Brea Power looks for other funding sources to meet its need, or abandoned if other funding sources could not be obtained. Furthermore, DOE's ability to achieve its objectives to deploy sustainable energy infrastructure projects and energy efficient industrial technologies would potentially be impaired.

Although this and other selected projects might proceed if DOE decided not to provide financial assistance, DOE assumes, for purposes of this EA, that the project would not proceed without DOE assistance. If the project does proceed without DOE's financial assistance, the potential impacts would be essentially identical to those under DOE's action alternative (that is, providing assistance that allows the project to proceed). In order to allow a comparison between the potential impacts of a project as implemented and the impacts of not proceeding with a project, DOE assumes that if it decided to withhold assistance from this project, the project would not proceed.

2.4 DOE's Alternative Actions

DOE's alternatives to its proposed action for the Industrial Technologies Program consist of the other technically acceptable applications received in response to Funding Opportunity Announcement DE-FOA-0000044, *Recovery Act: Deployment of Combined Heat and Power (CHP) Systems, District Energy Systems, Waste Energy Recovery Systems, and Efficient Industrial Equipment.* Prior to selection, DOE made preliminary determinations regarding the level of review required by NEPA, based on the potentially significant impacts identified during reviews of the technically acceptable applications. DOE conducted these preliminary environmental reviews pursuant to 10 CFR 1021.216 and a variance to certain requirements in that regulation granted by the Department's General Counsel (74 *Federal Register* 41693, August 18, 2009). These preliminary NEPA determinations and environmental reviews were provided to the selecting official for consideration during the selection process.

Because DOE's proposed action is limited to providing financial assistance in cost-sharing arrangements to projects that were submitted by applicants in response to a competitive funding opportunity, DOE's decision is limited to either accepting or rejecting the project as proposed by

the proponent, including its proposed technology and selected sites. DOE's consideration of reasonable alternatives is therefore limited to the technically acceptable applications and the No-Action Alternative for each selected project.

3. AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

In this chapter, DOE assesses the following resources: air quality; noise; aesthetics and visual resources; geology and soils; water resources; biological resources; cultural resources; socioeconomics; utilities, energy, and materials; and transportation. The "environmental baseline" for each of these resource areas is described first, followed by an assessment of the potential impacts of the proposed project and No-Action Alternative.

3.1 Air Quality

3.1.1 AFFECTED ENVIRONMENT

This section describes the existing air quality conditions at and surrounding the project site. Ambient air quality conditions are discussed first followed by a discussion of air quality conformity, and greenhouse gas emissions.

3.1.1.1 Ambient Air Quality Conditions

The ambient air quality in an area can be characterized in terms of whether it complies with the primary and secondary National Ambient Air Quality Standards (NAAQS). The *Clean Air Act* (42 U.S.C. 7401 et seq.) requires the U.S. Environmental Protection Agency (EPA) to set NAAQS for pollutants considered harmful to public health and the environment. National primary ambient air quality standards define levels of air quality which the EPA has determined as necessary to provide an adequate margin of safety to protect public health, including the health of "sensitive" populations such as children and the elderly. National secondary ambient air quality standards define levels of air quality which are deemed necessary to protect the public welfare, including protection against decreased visibility and damage to animals, crops, vegetation, and buildings. NAAQS have been established for six criteria pollutants: carbon monoxide (CO); lead (Pb); nitrogen dioxide (NO_2); ozone (O_3); particulate matter (which includes both particulate matter with an aerodynamic size less than or equal to 10 microns [PM_{10}] and less than or equal to 2.5 microns [$PM_{2.5}$]); and sulfur dioxide (SO_2). Table 2-1 lists the NAAQS primary and secondary standards for each criteria pollutant. There are no ambient standards for volatile organic compounds (VOCs), although VOCs and nitrogen oxides (NO_x) are considered to be precursor emissions responsible for the formation of ozone in the atmosphere. In addition, California has adopted its own ambient air quality standards that are not to be exceeded. Table 2-1 also lists the California standards.

Regions in compliance with the NAAQS are designated as attainment areas. Nonattainment status is designated for areas where the applicable NAAQS are not being met. Maintenance status is designated for areas with a history of nonattainment, but now consistently meets the NAAQS. Maintenance areas can be re-designated by the EPA from "nonattainment" to "attainment with a maintenance plan."

Table 2-1. State and Federal Ambient Air Quality Standards.

Pollutant	Averaging Time	California Standards[1]		Federal Standards[2]		
		Concentration[3]	Method[4]	Primary[3,5]	Secondary[3,6]	Method[7]
Ozone (O_3)	1 Hour	0.09 ppm (180 µg/m^3)	Ultraviolet Photometry	----	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m^3)		0.075 ppm (147 µg/m^3)		
Respirable Particulate Matter (PM_{10})	24 Hour	50 µg/m^3	Gravimetric or Beta Attenuation*	150 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Geometric Mean	20 µg/m^3*		----		
Fine Particulate Matter ($PM_{2.5}$)	24 Hour	No Separate State Standard		35 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m^3	Gravimetric or Beta Attenuation	15 µg/m^3		
Carbon Monoxide (CO)	8 Hour	9.0 ppm (10 mg/m^3)	Non-Dispersive Infrared Photometry (NDIR)	9 ppm (10 mg/m^3)	None	Non-dispersive Infrared Photometry (NDIR)
	1 Hour	20 ppm (23 mg/m^3)		35 ppm (40 mg/m^3)		
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m^3)		----	----	----
Nitrogen Dioxide (NO_2)	Annual Arithmetic Mean	0.030 ppm (56 µg/m^3)	Gas Phase Chemilumine-scence	0.053 ppm (100 µg/m^3)	Same as Primary Standard	Gas Phase Chemilumine-scence
	1 Hour	0.18 ppm (338 µg/m^3)		0.100 ppm (footnote 8)	None	
Lead[9] (Pb)	30 days average	1.5 µg/m^3	Atomic Absorption	----	----	----
	Calendar Quarter	----		1.5 µg/m^3	Same as Primary Standard	High Volume Sampler and Atomic Absorption
	Rolling 3-Month Average[10]	----		0.15 µg/m^3		
Sulfur Dioxide (SO_2)	Annual Arithmetic Mean	----		0.030 ppm (80 µg/m^3)	----	
	24 Hour	0.04 ppm (105 µg/m^3)	Ultraviolet Fluorescence	0.14 ppm (365 µg/m^3)	----	Spectrophoto-metry (Pararosaniline Method)
	3 Hour	----		----	0.5 ppm (1300 µg/m^3)	
	1 Hour	0.25 ppm (655 µg/m^3)		----	----	

Table 2-1. State and Federal Ambient Air Quality Standards (continued).

Pollutant	Averaging Time	California Standards[1]		Federal Standards[2]		
		Concentration[3]	Method[4]	Primary[3,5]	Secondary[3,6]	Method[7]

Source: CARB 2010

1. California standards for O_3, CO, SO_2 (1 and 24 hour), NO_2, PM_{10}, $PM_{2.5}$, are values that are not to be exceeded. All others are not to be equaled or exceeded.
2. National standards (other than O_3, PM_{10}, $PM_{2.5}$ and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest eight hour concentration in a year, averaged over three years, is equal to or less than the standard. For PM_{10}, the 24 hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 $\mu g/m^3$ is equal to or less than one. For $PM_{2.5}$, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard.
3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
4. Any equivalent procedure which can be shown to the satisfaction of the California Air Resources Board (CARB) to give equivalent results at or near the level of the air quality standard may be used.
5. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.
6. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
7. Reference method as described by the EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the EPA.
8. To attain this standard, the 3-year average of the 98th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed 0.100 ppm (effective January 22, 2010)
9. CARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.
10. National lead standard, rolling 3-month average: final rule signed October 15, 2008.

$\mu g/m^3$ = micrograms per cubic meter
ppm = parts per million

The proposed project is located within the South Coast Air Basin. Table 3-1 presents the Basin attainment status with state and federal ambient air quality standards as of September 2009.

Table 3-1. South Coast Air Basin attainment status as of 2009.

Pollutant	State	Federal
Ozone	Nonattainment	Nonattainment (Severe 17)[a]
$PM_{2.5}$	Nonattainment	Nonattainment
PM_{10}	Nonattainment	Nonattainment (Serious)
CO	Attainment	Attainment
NO_2	Attainment	Maintenance/Attainment
SO_x	Attainment	Attainment

Source: CARB 2009.

a. A nonattainment area is classified by how severely it violates air standards or by the type of standard it exceeds. An ozone (8-hour) Severe 17 classification signifies that the area has an ozone concentration of 0.190 up to 0.280 parts per million and has 17 years to attain the NAAQS.

Based on state and federal ambient air quality standards, the local air agency, South Coast Air Quality Management District, has developed local air quality significant thresholds for helping lead agencies determine the significance of air emissions from projects in the South Coast Air Basin. Table 3-2 lists the District's mass daily significance thresholds.

Table 3-2. South Coast Air Quality Management District significance thresholds.

Pollutant	Construction	Operation
NO_x	100 lbs/day	55 lbs/day
VOC	75 lbs/day	55 lbs/day
PM_{10}	150 lbs/day	150 lbs/day
$PM_{2.5}$	55 lbs/day	55 lbs/day
SO_x	150 lbs/day	150 lbs/day
CO	550 lbs/day	550 lbs/day
Lead	3 lbs/day	3 lbs/day
CO_2	10,000 metric tons per year	

Source: CARB 2009
lbs/day = pounds per day

3.1.1.2 Air Quality Conformity

Section 176(c)(1) of the *Clean Air Act* requires federal agencies to ensure that their actions conform to applicable implementation plans for the achievement and maintenance of the NAAQS for criteria pollutants. To achieve conformity, a federal action must not contribute to new violations of standards for ambient air quality, increase the frequency or severity of existing violations, or delay timely attainment of standards in the area of concern (for example, a state or a smaller air quality region). Federal agencies prepare written Conformity Determinations for federal actions that are in or that affect NAAQS nonattainment or maintenance areas when the total direct or indirect emissions of nonattainment pollutants (or their precursors in the case of ozone) exceed specified thresholds. Conformity with the EPA-approved state implementation plan is demonstrated if the project emissions fall below the threshold value *de minimis* emissions. The proposed project in the South Coast Air Basin, Orange County, California is located in an area that has been designated as a nonattainment area for ozone (8-hour standard), $PM_{2.5}$, and PM_{10}. The *Clean Air Act* conformity threshold values for this area are 25 tons per year for the ozone precursor NO_x, 25 tons per year for the ozone precursor VOC, and 70 tons per year for PM_{10} (40 CFR 93.153). $PM_{2.5}$ is a subset of PM_{10} and, by definition, a source is considered to be major for $PM_{2.5}$ if it emits or has the potential to emit 70 tons per year of PM_{10} (EPA 2005).

Conformity with the EPA-approved state implementation plan is also demonstrated for those projects exempt from the general conformity requirements for reasons other than having emissions below the *de minimis* thresholds. For instance, a conformity determination is not required for actions that include major new or modified stationery sources that require a permit under the *Clean Air Act* new source review or Prevention of Significant Deterioration programs (40 CFR 93.153(d)).

The proposed project would not produce emissions that are greater than the threshold *de minimis* values for criteria pollutants (OC W&R 2009). Therefore, the proposed project falls into conformity with the EPA-approved state implementation plans and a written Conformity Determination is not required.

3.1.1.3 Greenhouse Gas Emissions

Landfill gas, often referred to inaccurately as methane (usually its main component), is a source of greenhouse gases. In essence, the current gas-to-energy facility at the Olinda Alpha Landfill is turning a nuisance (that is, landfill gas) into a resource (that is, energy). Global warming is the observed increase in average temperature of the earth's surface and atmosphere. The primary cause of global warming is an increase of greenhouse gas emissions in the atmosphere. The six major greenhouse gases are carbon dioxide, methane, nitrous oxide, sulfur hexafluoride, haloalkanes, and perfluorocarbons. Greenhouse gases absorb longwave radiant energy emitted by the earth, which warms the atmosphere. Greenhouse gases also emit longwave radiation both upward to space and back down toward the surface of the earth. The downward part of this longwave radiation emitted by the atmosphere is known as the "greenhouse effect." The current scientific consensus is that the majority of the observed warming over the last 50 years can be attributed to increased concentration of greenhouse gas emissions in the atmosphere due to human activities. Events and activities, such as the industrial revolution and the increased consumption of fossil fuels (such as, combustion of gasoline, diesel, and coal), have heavily contributed to the increase in atmospheric levels of greenhouse gas emissions (OC W&R 2009).

California law provides that climate change is an environmental effect subject to the California Environmental Quality Act (CEQA). Lead agencies therefore are obligated to determine whether a project's climate change-related effects may be significant, requiring preparation of an Environmental Impact Report, and to impose feasible mitigation to substantially lessen any significant effects. Determining significance, however, can be a challenging task. Accordingly, the Governor's Office of Planning and Research in its June 2008 Technical Advisory, "CEQA and Climate Change," asked the Air Resources Board to make recommendations for greenhouse gas-related thresholds of significance – identifiable benchmarks or standards that assist lead agencies in the significance determination.

In response, the Air Resources Board, on October 24, 2008, released their Preliminary Draft Staff Proposal for greenhouse gas-related Threshold of Significance. The Board is taking the first step toward developing recommended statewide interim thresholds of significance for greenhouse gases that may be adopted by local agencies for their own use. The task that the Board is undertaking is, however, a limited one. The Board will not attempt to address every type of project that may be subject to CEQA, but instead will focus on common project types that, collectively, are responsible for substantial greenhouse gas emissions – specifically, industrial, residential, and commercial projects. The Board believes that thresholds in these important sectors will advance climate objectives, streamline project review, and encourage consistency and uniformity in the CEQA analysis of greenhouse gas emissions throughout the state. In December 2008, the Board released the "Climate Change Scoping Plan" that proposed a comprehensive set of actions designed to reduce overall greenhouse gas emissions in California and improve the environment.

CEQA guidelines provide that thresholds of significance can be qualitative, quantitative, or in the form of performance standards. The Air Resources Board's objective is to develop a threshold of significance that will result in the vast majority (about 90 percent statewide) of the greenhouse gas emissions from new industrial projects being subject to CEQA's requirement to impose feasible mitigation. The Board believes this can be accomplished with a threshold that allows small projects to be considered insignificant. The Board used existing data for the industrial sector to derive a proposed hybrid threshold. The threshold consists of a quantitative threshold of 7,000 metric tons of carbon dioxide equivalent per year for operational emissions (excluding transportation), and performance standards for construction and transportation emissions (OC W&R 2009).

The South Coast Air Quality Management District has also developed its own interim threshold for projects in the South Coast Air Basin. On December 5, 2008, the District Governing Board adopted the proposal for an interim greenhouse gas significance threshold for projects where the District is the lead agency. The interim threshold has been established as 10,000 metric tons per year of carbon dioxide equivalent emissions (OC W&R 2009).

3.1.2 ENVIRONMENTAL CONSEQUENCES

3.1.2.1 Proposed Project

Construction. DOE expects the proposed project to begin construction in 2010. Construction emissions from the proposed project would be below significance thresholds (OC W&R 2009). Therefore, the proposed project would not result in any significant impacts to air quality from construction emissions. Construction activities are expected to take place six days per week, eight to twelve hours per day, and would continue for approximately nine months, ending in 2011. The construction work day would begin at 7:00 a.m. and end at 7:00 p.m. (OC W&R 2009).

Short-term air quality impacts would occur from construction activities associated with the movement of equipment. Construction activities would be temporary and would occur in a localized area. Air emissions generated from construction would include particulate matter, vehicle emissions, and increased wind-borne dust (that is, fugitive dust). Best management practices would be implemented for erosion control and fugitive dust mitigation. Vehicular and construction equipment exhaust would be a source of pollutant emissions, but would be short-term and minor, resulting in a negligible impact on air quality compared to the total existing vehicular emissions in the area.

Operations. Brea Power does not expect the proposed project to violate any air quality standard or contribute to an existing or project air quality violation (OC W&R 2009). The estimated emissions of most criteria pollutants would decrease after the project modifications (assuming the current landfill gas flow). VOC emissions would decrease by 426 pounds per day, NO_x emissions would decrease by 50 pounds per day, PM_{10} and $PM_{2.5}$ emissions would decrease by 59 pounds per day, and SO_x emissions would decrease by 42 pounds per day (OC W&R 2009).

The net emissions change from the proposed project would be less than the threshold *de minimis* values for criteria pollutants and thus the proposed project would fall into conformity with the EPA-approved state implementation plans and a written Conformity Determination would not be required.

The proposed project would not conflict with or obstruct implementation of the South Coast Air Quality Management District Air Quality Management Plan. The District's Rule 1150.1 requires that landfill gas, comprised primarily of methane and carbon dioxide, be collected and properly managed to control fugitive emissions and odors, and to prevent public health and safety hazards. Orange County manages a complex gas collection system at the Olinda Alpha Landfill consisting of horizontal collectors, vertical extraction wells, perimeter trenches, headers and sub-headers. The collection system is expanded as additional refuse disposal areas are filled. The collection system is under vacuum, drawing the landfill gas to a central point for proper management. This central point consists of flares and an existing landfill gas-to-energy facility that converts the landfill gas emissions to energy. This existing effort is being conducted to prevent public nuisance and the detriment to public health caused by the exposure of such emissions, and is in compliance with Rule 1150.1 and the Air Quality Management Plan (OC W&R 2009).

The proposed project would use 19 percent aqueous ammonia, stored in a 10,000-gallon tank, as part of normal operations to inject into the gas turbine exhaust for control of NO_x emissions. Aqueous ammonia is neither a criteria pollutant nor a hazardous air pollutant, and it has no NAAQS. Nineteen percent aqueous ammonia is not considered a hazard under the California Accidental Release Prevention Program. However, a worst-case release analysis using 20 percent aqueous ammonia indicates that there would be no risk outside of the proposed power plant (OC W&R 2009) as discussed further in Section 3.9.2.1.4 of this EA.

Title V Facility Permit. Title V permits are federal operating permits required for facilities that can produce large amounts of air pollution. In California, the permits are issued locally under Title V of the *Clean Air Act*. The South Coast Air Quality Management District issued revisions to the Title V Facility Permit for Ridgewood Power Management at Brea, California on January 22, 2010. The revised sections reflected the approval of a Significant Permit Revision of the Title V permit. The South Coast Air Quality Management District issued a draft permit for EPA review on December 4, 2009, and no comments were received from the EPA. A public notice was required for the revision, and no comments were received from the public. The revisions included a Permit to Construct in Section H. The Permit to Construct applies to the landfill gas treatment system (siloxane removal), flare (enclosed landfill/digester gas), four new gas turbines, four new air pollutions control systems, and a new aqueous ammonia storage tank.

Greenhouse Gases. Landfill gas consists largely of methane, which is a very potent greenhouse gas. The potential destructive capacity of methane is 22 times worse than carbon dioxide. The proposed project is turning a nuisance (that is, landfill gas) into a resource (that is, energy). By using nearly 50,000 tons per year of methane from the landfill gas, the project would generate carbon dioxide equivalent reductions of greater than 1 million tons annually (RRP undated).

Additionally, an indirect benefit would be an avoidance of over 120,000 tons of carbon dioxide per year from not using fossil fuels for generating a similar amount of electricity by standard means. The proposed project reduces greenhouse gas emissions when compared to existing operations. Therefore, the project does not exceed greenhouse gas threshold values that have been established by the State of California or the South Coast Air Quality Management District. .

3.1.2.2 No-Action Alternative

Under the No-Action Alternative, DOE would not provide funds to the proposed project. As a result, this project would be delayed as Brea Power looks for other funding sources to meet its need, or abandoned if other funding sources could not be obtained. The environmental benefits of converting a greater volume of landfill gas to electricity, reducing the amount of landfill gas to be flared, and reducing the amount of greenhouse gas emissions would not be realized. Furthermore, DOE's ability to achieve its objectives to deploy sustainable energy infrastructure projects and energy efficient industrial technologies would potentially be impaired. No changes or impacts would occur to the existing air quality.

3.2 Noise

3.2.1 AFFECTED ENVIRONMENT

This section describes the existing noise conditions in the area of the project site. The proposed project site is located within the Olinda Alpha Landfill property. Adjacent properties include Chino Hills to the north and east, Tonner Canyon to the north and west, and single-family residences to the south. The Olinda Ranch housing development is located about 0.5 mile south of the site and is the nearest noise-sensitive receptor. The primary source of noise in the area is roadway traffic. Truck traffic associated with the Olinda Alpha Landfill is a primary noise source along Valencia Avenue. In the immediate vicinity of the landfill, landfill operations are a source of noise, including truck traffic, earth removal equipment, and the existing gas-to-energy facility.

In November 2008, Brea Power took noise readings in the Olinda Ranch residential community as part of its Initial Study (OC W&R 2009). Measurements were taken at residences in the northernmost area of Olinda Ranch along Partridge Way, the east end of Sandpiper Way, and on Trolley Court. The readings were taken on November 5 and 6, 2008 between the hours of 10 p.m. and 7 a.m. because of the more restrictive nighttime noise ordinance sound level limit and the lack of other daytime masking noise sources (for example, local traffic). Existing sources of nighttime noise were found to be oil pumps, slight wind noise and occasional residential traffic. The measured noise levels were 38 A-weighted decibels (dBA) at Partridge Drive, 43 dBA at Sandpiper Way, and 43 dBA at Trolley Court (OC W&R 2009).

3.2.2 ENVIRONMENTAL CONSEQUENCES

3.2.2.1 Proposed Project

Potential noise impacts are not expected to be significant. Federal, state, and local agencies regulate environmental and occupational, as well as other aspects of noise. Occupational exposure to noise is regulated by California/Occupational Safety and Health Administration in Title 8, Group 15, Article 105, Sections 5095-5100. The standard stipulates that protection against the effects of noise exposure shall be provided when sound levels exceed 90 dBA over an 8-hour exposure period. Protection shall consist of feasible administrative or engineering controls. If such controls fail to reduce sound levels to within acceptable levels, personal protective equipment shall be provided and used to reduce exposure of the employee. Additionally, a hearing conservation program must be instituted by the employers whenever employee noise exposure equals or exceeds the action level of an 8-hour time-weighted average sound level of 85 dBA. The hearing conservation program requirements consist of periodic area and personal noise monitoring, performance and evaluation of audiograms, provision of hearing protection, annual employee training, and record keeping.

The County of Orange General Plan requires that noise sensitive uses, which include residences, schools, places of worship, hospitals, parks, and recreation areas, should not be exposed to exterior noise levels in excess of 65 dBA. Interior noise levels for residences, hospitals, hotels, and motels should not exceed 45 dBA. For the City of Brea, a noise impact is considered significant if the future noise levels will exceed acceptable levels at noise-sensitive locations (residences, schools, daycare facilities, and parks) or contribute a 3 dBA or greater increase along roadways where noise/land use incompatibilities currently exist. The 3 dBA threshold represents an increase in noise levels which is perceived as “just noticeable”.

Construction activities associated with the proposed project would generate temporary noise from heavy equipment; however, most noise would be localized to the immediate area within the proposed project site planned for the placement of the new turbines. The project site is approximately 0.5 mile from the closest sensitive receptor (Olinda Ranch residential area) and the noise levels are expected to comply with all local noise ordinances. All construction would occur during the day time. The proposed project would also involve construction activities along Valencia Avenue leading up to the project site. These activities are necessary to install necessary utilities (electrical transmission line, fiber optic cable, and sewer) along Valencia Avenue (Figure 2-4). Construction would occur only during normal daylight hours in compliance with the City’s regulations. The noise would be kept to a minimum by using only the necessary equipment. At a worst case, it is expected that the equipment involved would be one backhoe and two small cranes operating up to 10 hours per day. To minimize noise disturbance, the staging area for the sewer line construction would be placed as far as feasible from the residential homes (OC W&R 2009).

For operations, noise modeling results indicate that the noise contribution of the new facility at the nearest Olinda Ranch location is less than the existing ambient noise and no measureable (or

perceptible) noise increase was calculated (OC W&R 2009). Noise modeling calculations projected noise levels of 37 dBA at Partridge Drive, 38 dBA at Sandpiper Way, and 39 dBA at Trolley Court as compared to the baseline measurements at these locations of 38 dBA, 43 dBA, and 43 dBA, respectively. Therefore, the proposed project would not result in a 3 dBA increase in noise and would not result in a significant impact to residents living in the Olinda Ranch residential community or to any other noise sensitive uses. In addition, the future noise levels are predicted to be significantly below the City of Brea Municipal code nighttime noise level limit of 50 dBA. Truck traffic to the landfill is a source of noise along Valencia Avenue. The proposed project would not increase truck deliveries to the landfill.

3.2.2.2 No-Action Alternative

Under the No-Action Alternative, DOE would not provide funding to Brea Power and the facility would not be constructed or operated. No new sources of noise at the proposed project site would occur.

3.3 Aesthetics and Visual Resources

3.3.1 AFFECTED ENVIRONMENT

This section describes the existing aesthetic and visual resource conditions in the area of the proposed project site. Visual resources include natural and manmade physical features that provide the landscape its character and value as an environmental resource.

The proposed project site is located within the Chino Hills with Tonner Canyon to the west and north of the site. Carbon Canyon is located to the east and residential communities within the city of Brea are located 0.5 mile to the south. The proposed project site is within the Olinda Alpha Landfill property and is approximately 550 feet from the existing gas-to-energy facility. The site itself is devoid of scenic vistas and is located within an immediate area used for public facilities (landfill and waste management operations). Figure 2 shows an aerial photograph of the proposed project site. The site is flat, but surrounded by sloped/elevated hillsides and is not immediately visible to the residences 0.5 mile away.

3.3.2 ENVIRONMENTAL CONSEQUENCES

3.3.2.1 Proposed Project

Potential impacts to aesthetics and visual resources are not expected to be significant. The proposed project would cause minor short-term visual impacts resulting from ground disturbance; the presence of workers, vehicles, and equipment; and the generation of dust and vehicle exhaust associated with construction of the proposed facility and related off-site components along Valencia Avenue. Fifteen worker trips and five truck trips to the project site are expected to occur daily during the peak of construction activities. Brea Power estimates the

construction period would last 18 months. Once construction is complete, the reclamation of disturbed areas would remove these visual impacts.

In the long term, the aesthetics of the area are expected to remain the same and would not be adversely impacted due to the high elevation of the site, the surrounding topography, the distance to any sensitive receptor, and the visual shielding that would encompass the site. The proposed project would modify an existing facility and modifications would not obstruct scenic resources or degrade the existing visual character of the surrounding area. The site itself is devoid of scenic vistas and is located within an immediate area used for public facilities (landfill and waste management operations).

For the on-site portion of the proposed project, the four turbines would be skid mounted and installed on concrete pads surrounded by a chain link fence. An electrical switchgear and control room would be located adjacent to the concrete pads. A modular building would also be located on site for the plant control system as well as separate enclosures for the continuous emissions monitoring systems. A 10,000-gallon above ground storage tank would be constructed for anhydrous ammonia. The project site is located adjacent to two existing 100,000-gallon water storage tanks. Figure 2-3 shows a schematic diagram of the proposed facility. All proposed modifications would be within the boundary of the existing landfill facility. The site is flat, but surrounded by sloped/elevated hillsides and is not immediately visible to the residences 0.5 mile away. In addition, the site would be surrounded by landscaped fencing which would further obstruct any views of equipment by nearby residences. Any new lighting that may be required for safety and security purposes would be consistent in intensity and type with the existing lighting on other facility structures and would not be expected to create a new source of light that would affect day or nighttime views. The turbines themselves do not include any surface material that would create a new source of glare. Potential impacts to aesthetics caused by traffic to the proposed facility would be negligible. Three or four additional full-time permanent employees would be added to the current four full-time employees once the turbines are operational. Truck deliveries would not increase.

As part of the Initial Study, Brea Power performed a line-of-sight analysis to determine the visibility of the proposed facility from locations in Olinda Ranch using existing topographical maps and dimensional data available for the equipment planned for use in the proposed facility. The analysis shows the proposed facility would not be visible from the locations in the Olinda Ranch residential subdivision (OC W&R 2009). On April 29, 2009, in order to confirm the findings of the line-of-sight analysis, Brea Power raised white balloons the diameter of the heat recovery steam generator and cooling tower stacks and placed them at elevations corresponding to the highest elevation of this equipment. Observations were then made and photos taken at various locations within the Brea community. For the majority of the views, the balloons were either not visible or barely visible from all locations due to their relatively small size and the normal activities taking place at the landfill such as trucks going to and coming from the landfill working area (OC W&R 2009). The visibility of the actual equipment would be further diminished by matching the color of the equipment to the hillside behind the project site. To

ensure that the proposed project would not result in any significant impacts to aesthetics or visual resources, at the time of future closure of the landfill facility, Brea Power has committed to work with the County and the City of Brea to achieve specific landscaping treatments for the power plant facility, with a goal to more completely visually soften and camouflage the facility from off-site views.

The transmission line improvements for the project would not install new power poles where poles do not already exist, except for two poles within the landfill boundary carrying the line connecting the existing gas-to-energy facility with the new gas-to-energy facility. These two poles are not expected to be visible from outside the boundary of the landfill (OC W&R 2009). Inside the landfill, eleven existing 55-foot high power poles would be replaced by eleven 80-foot high poles. Outside the landfill boundary, ten 75-foot poles would be replaced by eleven 80-foot poles along Valencia Avenue between the Brea Substation and Lambert Road. In order to transition from the overhead section of the transmission line to the underground section, SCE would construct two 85-foot tall engineered tubular steel riser poles. One riser pole would be located on the southwest corner of Valencia Avenue and Lambert Road at the request of the City, and the other would be located on the northeast corner of Valencia Avenue and Sandpiper Road. The transmission line improvements would not change the visual character of the area. No significant impacts to visual resources would occur.

3.3.2.2 No-Action Alternative

Under the No-Action Alternative, DOE would not provide funding to Brea Power and the facility would not be built or operated. No changes to aesthetics or visual resources would occur.

3.4 Geology and Soils

3.4.1 AFFECTED ENVIRONMENT

This section describes the existing geology and soil conditions in the area of the proposed project site. Geologic and topographic conditions are discussed first, followed by soils, and prime farmland.

The Olinda Alpha Landfill is located in the southern foothills of the central Puente Hills/Chino Hills in northern Orange County. The property is located within an unidentified Section within Township 3 South, Range 9 West, of the San Bernardino Base and Meridian. According to the U.S. Geological Survey Yorba Linda, California 7.5 minute topographic quadrangle map (dated 1981), the landfill is located at about 775 feet above mean sea level. The topography of the property is relatively flat, with a gradual slope to the south.

The proposed project site is located in an area that is generally level, built of engineered fill, and is paved or covered with gravel. The proposed project is not located on designated “prime” agricultural land, nor is the active disposal area for the site currently used for any type of agriculture (OC W&R 2009). About two-thirds of the transmission line would be built on soil

that is classified as Developed Areas, Including Ornamental Landscaping. The soil map units include paved and unpaved roads, sidewalks, buildings and parking lots, oil pumps and associated platforms, and ornamental landscaping (LSA 2009a). Soils in most of the areas were burned during recent fires in fall 2008 (LSA 2009a).

Southern California is an area of known seismic activity. The proposed project site is located about 0.5 mile north of the active northwest trending Whittier fault; however, this active earthquake fault does not extend underneath the landfill and therefore the proposed project would not be subject to fault rupture (OC W&R 2009).

3.4.2 ENVIRONMENTAL CONSEQUENCES

3.4.2.1 Proposed Project

Potential impacts to geology and soils are not anticipated to be significant. The facility would be constructed on engineered fill and no excavation of native soil is required for the on-site portion of the proposed project. About two-thirds of the transmission line would be built on soil that is classified as Developed Areas, Including Ornamental Landscaping. The soil map units for the site include paved and unpaved roads, sidewalks, buildings and parking lots, oil pumps and associated platforms, and ornamental landscaping (LSA 2009a). Soils in most of the areas were burned during recent fires in fall 2008 (LSA 2009a). Construction of the transmission line would require no new excavation of native soil. The proposed project is within a disturbed area devoid of agricultural resources and would not require any modifications that would convert classification of farmland to non-agricultural use (OC W&R 2009).

Although the Olinda Alpha Landfill is located within the earthquake prone southern California region, the proposed project would not expose people or structures to potential impacts pertaining to seismic ground shaking. Since earthquake-related hazards cannot be avoided in the Southern California region, the project site could be subjected to ground motion. Structures must be designed to comply with the Uniform Building Code Zone 4 requirements if they are located in a seismically active area. The Uniform Building Code is a standard safeguard against major structural failures and loss of life. Thus, the construction-related modifications associated with the proposed project would be required to conform to the Uniform Building Code and all other applicable state and local codes. All new equipment for the gas-to-energy facility structures would conform to Uniform Building Code requirements. In addition, SCE would design the transmission line consistent with California Public Utilities Commission General Order 95 to withstand seismic loading. As a result, the proposed project would not alter the exposure of people or property to the risk of loss, injury, or death involving seismic-related activities, including landslides, mudslides, or ground failure (OC W&R 2009).

3.4.2.2 No-Action Alternative

Under the No-Action Alternative, DOE would not provide funding to Brea Power and the facility would not be built or operated. No impacts to geology or soils would occur.

3.5 Water Resources

3.5.1 AFFECTED ENVIRONMENT

This section describes the existing water resources on and in the area of the project site. Surface water includes lakes, rivers, and streams while groundwater comprises the subsurface hydrogeologic resources of the physical environment. Wetlands and floodplains are also discussed.

3.5.1.1 Surface Water

Several unnamed creeks are located within the canyons to the west and east of the proposed project site. However, no surface water bodies occur on the proposed project site (OC W&R 2009).

3.5.1.2 Groundwater

The proposed project site does not overlie a major groundwater basin identified by the California Department of Water Resources. However, it is part of the watershed tributary to the La Habra-Yorba Linda Groundwater Basin, which is located south of the Whittier Fault Zone (OC W&R 2009). Regional groundwater flows in a southwesterly direction towards the Pacific Ocean. The Miocene bedrock of the Puente-Chino Hills area has been traditionally regarded as non-water yielding, because the yield has been too low for commercial use (URS 2008). As a result, hydrogeographically, the Puente Hills is best regarded as a bedrock aquitard with small volume perched aquifers (URS 2008). There are no known beneficial uses of the low-yield groundwater underlying the landfill site (OC W&R 2009).

3.5.1.3 Wetlands and Floodplains

No surface water or other evidence of wetlands occurs on the site or along the proposed utility easements (URS 2008; LSA 2009a). Additionally, the proposed project site is not located within a 100-year or 500-year Federal Emergency Management Area designated flood zone (URS 2008).

3.5.2 ENVIRONMENTAL CONSEQUENCES

3.5.2.1 Proposed Project

3.5.2.1.1 *Surface Water*

Potential impacts to surface water are not anticipated to be significant. The proposed project would be constructed at an existing facility located in an area that is generally level, is paved or covered with gravel, and with drainage infrastructure already in place. The proposed project is not expected to substantially alter existing drainage patterns or infrastructure during construction or operation and, therefore, would not affect surface runoff. The proposed project would not require the alteration of any stream or river, thereby increasing erosion or siltation off-site,

increasing surface runoff (resulting in flooding), or exceeding the capacity of storm water drainage systems. The project would not substantially alter the existing drainage pattern of the site or area. It is anticipated that minimal excavation and grading would be required during construction of the proposed project. Surface water runoff from the project site would flow into the existing Olinda Alpha Landfill storm water collection system which consists of a series of berms, drainage channels, and concrete-lined settling basins. The proposed project would therefore not substantially increase the rate or amount of surface water runoff, nor would the project result in substantial erosion or siltation (OC W&R 2009).

The proposed project would be required to comply with the National Pollutant Discharge Elimination System program and obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit 99-08-DWQ). As part of the National Pollutant Discharge Elimination System permitting, Brea Power would prepare a storm water pollution prevention plan for the project (OC W&R 2009). The facility currently complies with and would continue to comply with all relevant water quality standards and waste discharge regulations.

3.5.2.1.2 *Groundwater*

Potential impacts to groundwater are not anticipated to be significant. The proposed project would not result in the depletion of groundwater supplies and would not interfere with groundwater recharge. The proposed project would not require the direct or indirect use of groundwater and, as a result, is not expected to deplete groundwater supplies, influence groundwater quality, or interfere substantially with groundwater recharge to cause a net deficit in aquifer volume or the lowering of the local groundwater table level. In addition, the proposed project would not increase the demand for groundwater from any existing entitlements or resources, thereby requiring new or expanded entitlements (OC W&R 2009).

3.5.2.1.3 *Wetlands and Floodplains*

The proposed project would not impact wetlands and floodplains, as wetlands and 100-year floodplains do not occur on the proposed project site.

3.5.2.2 No-Action Alternative

Under the No-Action Alternative, DOE would not provide funding to Brea Power and the facility would not be built or operated. No impacts to surface water, groundwater, wetlands, or floodplains would occur.

3.6 Biological Resources

3.6.1 AFFECTED ENVIRONMENT

This section describes existing biological resources at the proposed project site. It focuses on plant and animal species or habitat types that are typical or are an important element of the

ecosystem, are of special category importance (of special interest due to societal concerns), or are protected under state or federal law or statute regulatory requirement. Vegetation is discussed first, followed by wildlife, sensitive species, and wetlands.

3.6.1.1 Vegetation

The project area is located within a wildland-urban interface with the area within the landfill boundary mostly devoid of natural vegetation. The off-site portion of the project, which extends along Valencia Avenue and heads east to the Olinda Alpha Landfill, is composed of a mosaic of developed lands and natural vegetation types (LSA 2009a). Five plant communities are prevalent in this area: (1) disturbed areas; (2) disturbed coastal scrub; (3) annual grassland; (4) coast live oak/California walnut woodland; and (5) riparian woodland (LSA 2009a). The coast live oak/California walnut habitat is co-dominated by coast live oak (*Quercus agrifolia*) and California walnut (*Juglans californica*). Most of the coastal scrub habitat was burned by a recent fire. Shrub growth is low and non-native plants have invaded the area. The two southern stands of riparian woodland are dominated by Goodding's willow (*Salix gooddingii*) or narrowleaf willow (*Salix exigua*), with Fremont cottonwood (*Populus fremontii*) and blue elderberry (*Sambucus mexicana*) also present (LSA 2009a). The northern riparian woodland was burned and the area is dominated by early successional growth. Coastal scrub, coast live oak/California walnut woodlands, and riparian woodlands are special-status habitats.

3.6.1.2 Wildlife

Recent fires in the area have reduced available habitat suitable for most wildlife species. Surveys conducted in support of the biological assessment documented mainly avian species which can inhabit burned and newly emergent vegetation quickly (LSA 2009a). Common sagebrush lizard (*Sceloporus graciosus*), Coastal western whiptail (*Aspidoscelis tigris stejnegeri*), and California ground squirrel (*Spermophilus beecheyi*) were the other vertebrate species besides the avian species documented on the site (LSA 2009a). The urban interface may also provide habitat to generalist mammalian species such as raccoons (*Procyon lotor*) and coyotes (*Canis latrans*).

3.6.1.3 Sensitive Species

The USFWS administers the *Endangered Species Act* of 1973, as amended. This law provides federal protection for species designated as federally endangered or threatened. An endangered species is "in danger of extinction throughout all or a significant portion of its range," and a threatened species "is likely to become an endangered species within the foreseeable future" (USFWS 1988). Special status species are listed as threatened or endangered, are proposed for listing, or are candidates for listing by the state and/or federal government.

Several species classified as threatened, endangered, proposed, or candidate under the *Endangered Species Act* occur in Orange County (Table 3-3). In addition, the area surrounding the proposed project site contains potentially suitable habitat to support a number of California

species of concern plant and wildlife species; however, no special-status species were observed during the biological surveys (LSA 2009a). Although these federally listed species occur in portions of Orange County, the preferred habitat does not exist for most of the species at the proposed project site due to historical disturbances of the area. The coastal California gnatcatcher (*Polioptila californica californica*) is the exception.

The off-site portion of the project area along Valencia Avenue occurs within federally designated critical habitat for the federally listed threatened coastal California gnatcatcher. As a result of the November 2008 Freeway Complex Fire, much of the natural habitat in the study area has been invaded by nonnative plants and suitable habitat to support the California gnatcatcher does not exist along the proposed utility alignments (LSA 2009a). California gnatcatchers are known to occur in nearby locations and the potential for their occasional presence on the site, but not nesting potential, is high (LSA 2009a). A proposed two-pole structure in the northwestern corner of the project site does not have an existing access route for placement. To access this structure, it is likely that impacts to natural vegetation, including special-status vegetation such as coastal scrub or woodlands associated with California walnut, would occur (LSA 2009a).

Table 3-3. Federal and California-state listed species for Orange County.

Common name	Scientific name	Listing status[a]	Habitat
Plants			
Braunton's milk-vetch	*Astragalus brauntonii*	FE	Associated with fire-dependent chaparral habitat, and requires limestone outcrops
Ventura Marsh milk-vetch	*Astragalus pycnostachyus var. Lanosissimus*	FE; SE	Coastal salt marshes
Thread-leaved brodiaea	*Brodiaea filifolia*	FT; SE	Clay soils of grasslands and vernal pools
Santa Monica dudleya	*Dudleya cymosa ssp. Ovatifolia*	FT	Chaparral, coastal sage scrub
Laguna Beach dudleya	*Dudleya stolonifera*	FT; ST	Primarily restricted to weathered sandstone rock outcrops on cliffs in microhabitats within coastal sage scrub or chaparral; San Joaquin Hills near Laguna Beach
Santa Ana River woollystar	*Eriastrum densifolium* ssp. *sanctorum*	FE; SE	Alluvial-fans; study area is outside of the species range
San Fernando Valley spineflower	*Chorizanthe parryi var. Fernandina*	FC; SE	Occurs in dry, sandy places mostly in coastal sage scrub
Slender-horned spineflower	*Dodecahema leptoceras*	FE; SE	Alluvial-fans.
Salt marsh bird's-beak	*Cordylanthus maritimus ssp. Maritimus*	FE; SE	Coastal salt marshes
Gambel's water cress	*Nasturtium gambelii (*also known as *rorippa gambelli)*	FE; ST	Freshwater marshes
Big-leaved crownbeard	*Verbesina dissita*	FT; ST	Coastal sage scrub

Table 3-3. Federal and California-state listed species for Orange County (continued).

Common name	Scientific name	Listing status[a]	Habitat
Invertebrates			
San Diego fairy shrimp	*Branchinecta lynchii*	FT	Vernal pools
Quino cherckerspot butterfly	*Euphydryas editha quino*	FE	Coastal sage scrub habitat but population are confined to Riverside and San Diego counties
Riverside fairy shrimp	*Streptocephalus woottoni*	FE	Vernal pools
Amphibians			
Arroyo toad	*Bufo californicus*	FE	Found in washes, streams, and arroyos in riparian, upland habitats, and desert washes
California red-legged frog	*Rana aurora draytonii*	FT	Found in riparian forest, woodland, grassland, and streamside
Birds			
Western snowy plover	*Charadrius alexandrinus nivosus*	FT	Coastal
Southwestern willow flycatcher	*Empidonax traillii extimus*	FE; SE	Riparian habitat where willow, cottonwoods, and stinging nettles are dense
Western yellow-billed cuckoo	*Coccyzus americanus occidentalis*	FC; SE	Riparian forest, along lower flood-bottom of larger river systems
Bald eagle	*Haliaeetus leucocephalus*	SE	Requires large bodies of water, or free flowing rivers with abundant fish
Coastal California Gnatcatcher	*Polioptila californica Californica*	FT	Coastal sage scrub
Least Bell's vireo	*Vireo bellii pusillus*	FE; SE	Very rare in orange county; riparian and woodland habitats
Belding's savannah sparrow	*Passerculus sandwichensis beldingi*	SE	Coastal wetlands
California least tern	*Sternula antillarum browni*	FE; SE	Sandy soils along the coast
Brown pelican	*Pelecanus occidentalis*	FE	Coastal Orange County
Short-tailed albatross	*Phoebastria albatrus*	FE	Coastal Orange County
Light-footed clapper rail	*Rallus longirostris*	FE; SE	Coastal wetlands
California black rail	Laterallus jamaicensis coturniculus	ST	Coastal wetlands
Mammals			
Pacific pocket mouse	*Perognathus longimembris pacificus*	FE	Coastal basins of Southern California in grassland and sandy coastal sage habitats.
Southern sea otter	Enhydra lutria nereis	FT	Coastal waters

Sources: USFWS 2009; California Department of Fish and Game 2009; California Natural Diversity Database 2009

a. Listing: Federal Status: FE – Listed as Endangered; FT – Listed as Threatened; FC – Federal candidate for listing. California State Status: SE – State-listed as Endangered; ST – State listed as threatened; CSC – California Species of Special Concern. Refers to animals with vulnerable or seriously declining populations.

3.6.1.4 Wetlands

Wetlands are classified by the U.S. Army Corps of Engineers based on three criteria: hydrology, soil type, and vegetation. Specifically, wetlands are defined as those areas that are saturated or

inundated by water that is sufficient to support vegetation typically adapted to saturated soils (USACE 1987). Wetlands and other surface water features, which may include intermittent and perennial streams, are generally considered "waters of the United States" by the U.S. Army Corps of Engineers, and under their definition of "jurisdictional waters/features," are protected under Section 404 of the CWA. The USFWS's National Wetlands Inventory does not identify wetlands on the project site (USFWS 2010).

3.6.2 ENVIRONMENTAL CONSEQUENCES

3.6.2.1 Proposed Project

With the majority of the proposed project site non-vegetated and composed of graded fill, impacts to biological resources would be minimal for most of the area. However, the project would result in the removal of approximately 0.28 acre of coastal sage scrub which is not only a sensitive habitat but also habitat for the federally listed threatened coastal California gnatcatcher. This coastal sage scrub located on the project site is not natural vegetation but rather was installed several years ago as part of an erosion control (LSA 2009a). Protocol surveys conducted May-June 2009 did not identify any nesting gnatcatchers within the coastal sage scrub located on the project site (LSA 2009a); however, birds were documented in close proximity to the site. In a discussion with USFWS (Jonathan Snyder, USFWS, on July 22, 2009), it was determined that the removal of coastal sage scrub on the proposed project site would not constitute a "take" situation that would require a 10A permit from the Service; however, the loss of 0.28 acre of coastal sage scrub would require mitigation (LSA 2009a).

On November 4, 2009, Brea Power submitted a Mitigated Negative Declaration 515 to Orange County, committing to an on-site program for coastal sage scrub restoration due to the potential loss of coastal sage scrub habitat. In support of this declaration, LSA Associates, Inc. (LSA 2009b) on behalf of Brea Power, developed a habitat mitigation and monitoring plan that provides the concepts and direction to implement and maintain the restoration required to compensate for permanent impacts to 0.28 acre of coastal sage scrub by restoring a similar amount of acreage at the Olinda Alpha Landfill site, or in the local vicinity near the landfill site. The plan was submitted to the USFWS and the California Department of Fish and Game on January 20, 2010. The plan provides direction for the restoration, maintenance, and monitoring of the permanent impacts to 0.28 acre of coastal sage scrub habitat by restoring 0.28 acre of ruderal grassland to coastal sage scrub habitat with invasive removal and installation of a native planting palette consisting of species found in nearby high-quality coastal sage scrub habitat (LSA 2009b). Invasive species removal and control, hydroseeding, as well as the installation of 150 container plants in the restoration area are expected under the mitigation measures. On February 5, 2010 Brea Power submitted an addendum to the Mitigated Negative Declaration 515 to the USFWS and California Department of Fish and Game (Appendix C). The addendum provides for an off-site coastal sage scrub restoration program whereby Brea Power would pay the Puente Hills Landfill Native Habitat Preservation Authority (Habitat Authority) to restore coastal sage scrub within the Puente-Chino Hills preservation lands (Arnau 2010). Through the

agreement the Habitat Authority will restore up to 0.5 acre, and a minimum of 0.28 acre, of coastal sage scrub habitat within the Habitat Authority's preservation area to mitigate for the loss of coastal sage scrub habitat due to the project construction (Brea Power II, LLC 2010). The Habitat Authority will be responsible for the installation, maintenance and long-term monitoring of the coastal sage scrub restoration site. The compensatory mitigation agreement is provided in Appendix C.

On April 6, 2010, DOE sent a consultation letter to the USFWS, Carlsbad Office, requesting concurrence that the proposed project would have no effect on federally listed species since sensitive species are not present on the immediate project area. The CSS habitat affected would be mitigated off-site by restoring up to 0.5 acre of CSS habitat. On April 13, 2010, the USFWS concurred that with consideration of the mitigation measures, the project may affect, but is not likely to adversely affect, gnatcatcher critical habitat. Copies of DOE's letter and the USFWS's concurrence email are provided in Appendix B.

3.6.2.2 No-Action Alternative

Under the No-Action Alternative, DOE would not provide funding to Brea Power and the facility would not be built. No impacts to biological resources would occur.

3.7 Cultural Resources

3.7.1 AFFECTED ENVIRONMENT

This section describes the existing cultural resources in the area of the proposed project site. The area of potential effect for cultural resources includes the property within and immediately adjacent to the proposed project site that would be affected by the action, either during construction only or permanently. Cultural resources include: historic properties, as defined by the *National Historic Preservation Act*; cultural items, as defined by the *Native American Graves and Repatriation Act*; archeological resources, as defined by *Archaeological Resources Protection Act*; sacred sites, as defined in Executive Order 13007, to which access is afforded under the *American Indian Religious Freedom Act*; and collections and associated records, as defined in 36 CFR 79. The prehistoric and historic background of the area is summarized first, followed by the status of cultural resource inventories and Section 106 consultations, and Native American resources.

3.7.1.1 Prehistoric and Historic Background

The prehistoric and historic background of the area described below was largely taken from "The History of Orange County" on the Legends of America website (Legends of America 2010).

American Indians lived in Orange County until the Spanish colonization in the late 1700s. Two major groups of American Indians in Orange County, thought to originate from the Shoshonean

family, came to be known as the Gabrieleños and the Juaneños because of their proximity to the San Gabriel and San Juan Capistrano Missions.

In the late 1700s the Spanish set out on a military campaign to colonize the West coast of the New World. The Spanish expeditionary leaders sought to rapidly transform California's American Indian population into Spanish citizens to strengthen ties to Spain. In 1769, Gaspar de Portolá, became the first Spanish military leader from Europe to officially explore and write about the territory of Orange County. While the Spanish military was busy colonizing California for its resources, the Spanish Christian missionaries migrated to California to convert American Indians to Christianity. Father Serra from the Christian Franciscan order, an order best known for its vows of poverty, traveled with other Christian missionaries funded by the Spanish Empire and the Jesuits from Baja California to build missions and teach Christianity to American Indians. On November 1, 1776, the Franciscans built the first modern building of Orange County, known as the San Juan Capistrano Mission, which became the seventh mission of twenty one in California.

The missionary period in California lasted less than two generations, conservatively from 1776 to 1833, but probably not even that long. Between 1776 and 1821 Spain remained in sole control of the real estate in Orange County with hardly any land concessions to individual families. In 1810, a major change occurred when the Mexican and Spanish governments began fighting for land. In 1821 Mexico beat Spain and declared itself an independent nation. The following year the Mexican flag replaced the Spanish flag in Orange County. Almost immediately afterwards Mexico took away the promise of land from the American Indians and gave land to certain petitioning individuals who could show that they had enough resources to build a dwelling on the land in less than one year and who could cultivate the land for the Mexican government.

While Mexico controlled California, large rancher owners oversaw development of the commercial property, homes, and land in Orange County for their own commerce. During that time an influx of U.S. Americans from the Midwest and Eastern United States began to colonize the West. There were disturbances between Mexican provincial administrators and the U.S. citizens. Soon thereafter the United States and Mexico were in a war.

The U.S.-Mexican War lasted from 1846 to 1848. The Mexican government fled as U.S. troops advanced and on February 2, 1848 the Treaty of Guadalupe Hidalgo was signed in which the Mexican government sold 55 percent of its territory, including Arizona, California, New Mexico, Texas, and parts of Colorado, Nevada, and Utah for $15 million to compensate for war damages. California became the 31st state of the United States. A year later in 1849 the California gold rush began. At this time Orange County was only a part of the real estate in Los Angeles County, but became its own county in 1888.

The village of Olinda was founded in present-day Carbon Canyon at the beginning of the 19th century and many entrepreneurs came to the area searching for petroleum. In 1894, the owner of the land, Abel Stearns, sold 1,200 acres to the west of Olinda to the newly created Union Oil

Company, and by 1898 many nearby hills began sporting wooden oil-drilling towers on the newly discovered Brea-Olinda Oil Field. In 1908, the village of Randolph was founded just south of Brea Canyon for the oil workers and their families. The villages of Olinda and Randolph grew and merged as the economy boomed, and on January 19, 1911, the town's map was filed under the new name of Brea, from the Spanish language word for tar. With a population of 752, Brea was incorporated on February 23, 1917, as the eighth official city of Orange County.

For the proposed project site, a topographic map from 1898 indicates no significant structures or features on or near the proposed site, but depicts the following regions of the area: Brea Canyon, Rincon de la Brea, and the small town of Placentia to the south. According to review of available historic data, the subject and adjacent properties appeared to be undeveloped from 1935 to approximately 1984 (URS 2008). The Alpha Olinda Landfill has occupied this property since 1990.

3.7.1.2 Status of Cultural Resource Inventories and Section 106 Consultations

On March 22, 2010, DOE sent a letter to the California Department of Parks and Recreation, Office of Historic Preservation, to initiate consultation and request any additional information that office has developed or obtained on historic properties in the vicinity of the proposed project site. DOE received an email with questions from Mr. Ed Carroll from the Office of Historic Preservation. Subsequently, DOE provided a letter on May 20, 2010, to answer these questions and update the Office regarding the proposed project.

In June 2010, DOE and Mr. Ed Carroll from the Office of Historic Preservation discussed the additional information provided by DOE via teleconference. Mr. Carroll requested additional details on the proposed project as well as a cultural resources literature review for the area within a 1-mile radius of the proposed project, including the transmission line. On September 20, 2010, DOE provided additional information including the results of a cultural resources literature search performed in July and August 2010 (MACTEC 2010). Copies of all correspondence are included in Appendix B of this EA. Appendix D contains the literature search report.

The literature search identified 30 cultural resources within 1 mile of the proposed project area (facility site and transmission line). Only two of the resources have been determined to be eligible for inclusion on the National Register of Historic Places. One site, 30-120001, is a late 1800s to 1940s artifact cluster associated with the Olinda oil town and is located nearly 0.5 mile east to southeast of the project area, on the north side of Carbon Canyon Road. The other eligible site, 30-177012, known as Wildcatter's Park, is eligible as a historic district. This resource includes numerous buildings and structures located approximately 0.3 mile west of the proposed transmission line and approximately 500 feet north of Lambert Road. It includes one historic wellhead steel derrick; pumping, storage, transport, and maintenance buildings and structures; and a recreational park, originally constructed for employees of the Union Oil Company in approximately 1960.

In addition, one historic-era site is located close to the proposed transmission line, along the west side of Valencia Avenue. Site 30-001690 consists of a small domestic debris scatter dating to the early twentieth century. It is not considered eligible to the National Register of Historic Places, according to the California State Office of Historic Preservation. The site's eastern boundary is within 108 feet of the west flank of Valencia Avenue.

On September 29, 2010, the California State Office of Historic Preservation concurred with DOE's determination that no historic properties would be affected by the proposed project. Copies of these letters are included in Appendix B.

3.7.1.3 Native American Resources

No Native American concerns regarding the proposed project have been identified. A review of the U.S. Department of Housing and Urban Development – Office of Community Planning and Development – Environmental Planning Division database indicated there are no federally recognized tribes with interests in Orange County, California. On April 7, 2010, DOE submitted a Sacred Lands File Search and Native American Contacts List Request to the Native American Heritage Commission. Its April 26, 2010 response indicated no Native American cultural resources within 0.5 mile of the proposed project site. As recommended, DOE has initiated consultation with the Native American tribes on the contact list provided by the Native American Heritage Commission. Copies of DOE's request, the Native American Heritage Commission's response, and the tribal letters are included in Appendix B.

3.7.2 ENVIRONMENTAL CONSEQUENCES

3.7.2.1 Proposed Project

Potential impacts to cultural resources are not anticipated to be significant. The proposed facility would be located on engineered fill and would not result in development of undisturbed lands at the Olinda Alpha Landfill site. Construction activities would be limited primarily to the pouring of concrete pads for the four turbines, receiving equipment, and placing fencing on the site. In addition, a cultural resources literature search performed in July and August 2010 identified 30 sites within a 1-mile radius of the proposed project with only two considered eligible for the National Register of Historic Places (Appendix D). DOE determined that the proposed construction would not affect either eligible resource. Due to the distance between the proposed project area and the two sites (0.3 mile and 0.5 mile), direct effects from construction would not impact the historic resources. Further, since the transmission line would be built over the current line that exists along Valencia Avenue in this area, the viewshed would not be changed or impacted. Therefore, the on-site portion of the proposed project would not result in any impacts to historical, archaeological, or paleontological resources.

The potential for impacts to cultural resources during construction of the transmission line would be minimal due to the small likelihood of encountering such resources. The literature search identified one historic-era site within 108 feet of the west flank of Valencia Avenue. On

Valencia Avenue, between Lambert Road and the Olinda-Alpha Landfill, a 2,300-foot underground section of the transmission line would be constructed. The work would be done under Valencia Avenue and along the west curb face of the street side of Valencia Avenue. Because no new soil excavation would be required for construction of the transmission line, it is unlikely effects to this resource (Site 30-001690) would occur. In the event that cultural resources (such as, human remains, lithics, pottery, or remnants of older construction) are discovered during construction of the transmission line, work would cease in the area of the discovery, and the Office of Historic Preservation would be notified. A qualified archaeologist or a designated representative of the State Archaeologist would evaluate any such discovery, and, in consultation with the Office of Historic Preservation, implement appropriate mitigation measures before construction activities would resume. A letter dated September 29, 2010, from the California State Office of Historic Preservation supported DOE's determination that no historic properties would be affected by the proposed project. A copy of the letter is provided in Appendix B.

3.7.2.2 No-Action Alternative

Under the No-Action Alternative, DOE would not provide funding to Brea Power and the facility would not be built. No impacts to historic properties or other cultural resources would occur.

3.8 Socioeconomics

3.8.1 AFFECTED ENVIRONMENT

This section describes the existing socioeconomic conditions, including population, employment, housing, and fire protection and medical services in Brea, California.

3.8.1.1 Population and Unemployment

Brea's estimated population in 2008 was 38,113 people (U.S. Census Bureau 2010). The number of people in the workforce in Brea during the 2006-2008 census period was 20,253. The per capita income of Brea was $37,246 and median household income for the city was $81,814. Unemployment during this time was 3.6 percent, compared to nationwide unemployment of 4.1 percent.

3.8.1.2 Housing

During the 2006-2008 census period, there were 14,602 housing units in Brea, 96.1 percent of which were occupied. Owner occupancy accounted for 65.8 percent of occupied homes, while renter occupancy accounted for the remaining 34.2 percent (U.S. Census Bureau 2010). The median house value in the city was $646,100, which was significantly higher than the nationwide median of $192,400. These values may be lower today as a result of depressed housing prices across the country.

3.8.1.3 Schools

The City of Brea has nine public schools and four private schools. Public schools accommodate over 6,000 students and consist of six elementary, one middle, and two high schools. Private schools accommodate over 1,000 students and consist of two schools with pre-Kindergarten through sixth grade and two schools with pre-Kindergarten through eighth grade (Local School Directory 2010). There are three schools located within 2 miles of the Alpha Olinda Landfill, including Brea-Olinda High School, population 2,034; Brea Canyon High School, population 85; and Brea Country Hills Elementary School, population 600.

3.8.1.4 Fire Protection and Medical Services

The Brea Fire Department is located approximately 3.5 miles from the Olinda Alpha Landfill. The fire department provides a number of services to the city of Brea for critical situations, including fires, explosions, hazardous materials incidents, medical emergencies, accidents, and miscellaneous public assistance requests (City of Brea 2010). The department also provides services to the community, including fire inspections, hazardous process permitting, fire code enforcement, public education, and business emergency planning in accordance with California Code of Regulations.

Kindred Hospital in Brea is less than 4 miles from the Olinda Alpha Landfill. The hospital is a 48-bed facility and serves the project area (Hospital-Data 2010) with a variety of medical services. The nearest trauma center to the landfill is the University of California Irvine Medical Center. It is a 453-bed facility just over 10 miles from the Olinda Alpha Landfill (Hospital-Data 2010).

3.8.2 ENVIRONMENTAL CONSEQUENCES

3.8.2.1 Proposed Project

Potential socioeconomic impacts are not anticipated to be significant. The proposed project would not induce substantial growth in the area, displace existing housing, or displace people. The proposed project would not directly or indirectly induce population growth, adversely affect population, or affect population distribution (OC W&R 2009). Construction on the project is estimated to preserve or create 90 local jobs in the following labor categories: welders, steel workers, carpenters, mechanics, millwrights, electricians, heavy equipment operators, painters, and laborers (RRP undated). Another 270 manufacturing jobs would be preserved or created in California in the following areas: designers, machinists, unskilled labor, welders, and millwrights. Long-term employment created through implementation of this project to maintain operation of the plant/equipment and infrastructure is estimated to be 27 full-time equivalents from the local area. The project is an extension of the existing facility; therefore, local construction workers from the existing workforce would experience short-term benefit during initial construction, while there would be negligible long-term impacts on employment and housing.

The fire department and medical service providers in Brea currently serve adjacent commercial/industrial facilities in this general area. Therefore, there would be no need to expand the training or capabilities of those organizations. The proposed project would have little or no impact on local emergency service providers.

3.8.2.2 No-Action Alternative

Under the No-Action Alternative, DOE would not provide funds to Brea Power. Socioeconomic impacts would not occur.

3.9 Utilities, Energy, and Materials

3.9.1 AFFECTED ENVIRONMENT

This section describes the existing electric, natural gas, water, sewer, and storm water systems at the project site. Brea Power has not identified any materials required for construction or manufacturing operations that would be considered unique or limited resources. Therefore, this section addresses only those materials that would be used in relatively large quantities during the gas-to-energy process and that would present potential hazards to the environment or public health.

3.9.1.1 Energy Sources

Under existing conditions, approximately 25 percent (2.7 million standard cubic feet of landfill gas per day [mmscfd]) of the collected landfill gas is sent through a siloxane removal system. The gas is then conveyed to three internal combustion engines to generate approximately 5.5 MW of electrical energy. The energy generated at the plant, less the plant's parasitic load, is currently sold to the City of Anaheim Municipal Utility. The remaining 75 percent (11.1 mmscfd) of the captured landfill gas exceeds the capacity of the internal combustion engines, and is sent directly to the three existing on-site flares for combustion. The three internal combustion engines generate a total gross and net load of 5.5 MW and 4.9 MW, respectively. The parasitic load of the facility is 0.6 MW (OC W&R 2009).

3.9.1.2 Water and Sewer

Water at the existing gas-to-energy facility is only required for sanitary purposes, about 110 gallons per day. Due to the internal combustion engines that use a closed-loop cooling system, the existing gas-to-energy facility requires virtually no water for operation. The Olinda Alpha Landfill obtains water from the City of Brea municipal water supply. The City of Brea purchases all of its domestic water supply from two water wholesale agencies: Metropolitan Water District of Southern California and the California Domestic Water Company. Water service is provided throughout the City's planning area by the City of Brea Maintenance Service Department.

The Olinda Alpha Landfill is served by the City of Brea wastewater. The City of Brea owns, operates, and maintains the sewage collection systems for the City. Sanitary wastewater is conveyed for treatment to Orange County Sanitation District Plant No. 1, which is located at 10844 Ellis Avenue, Fountain Valley. The existing gas-to-energy facility does not generate any wastewater.

3.9.1.3 Storm Water System

Surface water runoff from the existing facility flows into the existing Olinda Alpha Landfill storm water collection system. This system consists of a series of berms, drainage channels, and concrete-lined desilting (or settling) basins.

3.9.1.4 Hazardous Materials

Only small amounts of oils and solvents are stored and used at the gas-to-energy facility currently. All hazardous materials at the facility are managed in accordance with applicable federal, state and local rules and regulations.

3.9.2 ENVIRONMENTAL CONSEQUENCES

3.9.2.1 Proposed Project

Potential impacts to utilities, energy, and materials are not anticipated to be significant. Beneficial impacts of electricity generation from waste landfill gas would be realized.

3.9.2.1.1 *Energy Sources*

The proposed project would modify the existing gas-to-energy facility to increase the net power generation from 4.9 MW to 28.1 MW at existing landfill gas levels. The modifications include installing four Solar™ Taurus Model 60 turbines and a steam turbine in a combined cycle system to convert landfill gas emissions to energy for sale to the City of Anaheim Municipal Utility. The existing three internal combustion engines would no longer be the primary source of power, and no backup fuel source for startup of the turbines or for fuel quality augmentation would be required. The internal combustion engines, would however, remain operational for use as a contingency. Beneficial impacts of the proposed project would include a projected energy savings of 2,216 trillion British thermal units (Btu) per year and a projected annual net production of 280,320 MW of clean energy. The proposed project would be the third largest gas-to-energy facility in the United States and perhaps the most efficient.

As described and assessed in this EA, SCE would upgrade and add to the existing transmission lines. A new 6,300-foot electric transmission line would be constructed along the west side of Valencia Avenue extending from SCE's Brea Substation heading north to the Landfill (Figure 2-4).

3.9.2.1.2 *Water and Sewer*

The proposed project would require a maximum of 485,000 gallons per day of water and produce 158,000 gallons per day of wastewater. Based on studies conducted by the City of Brea, there is sufficient capacity in the existing water and sewer systems to serve the proposed project (OC W&R 2009). Brea Power is negotiating a water agreement with the City of Brea (Solomon 2010).

Cooling tower recycle water would be sent to the collection tank at the site. No treatment would be required for the recycle water. Oily water would be sent to oily water treatment area and then the cleaned water would be sent to the same collection tank as recycle water. The California Regional Water Quality Control Board, Santa Ana Region has approved the use of water from the collection tank for dust suppression at the Landfill. This water would replace the potable water that is currently used for that purpose (OC W&R 2009). Approximately 30 to 50 percent of the recycle water would be used for dust suppression depending on the time of the year (Solomon 2010). Excess water would be sent to the City sewer.

The proposed project would improve water flow to the existing landfill water tanks thus maintaining a greater fire-fighting capability. A new sewer line, approximately 2,800 feet long, would be constructed from the proposed project, along the landfill access road, to the existing City of Brea sewer system at the north end of Valencia Avenue, as shown on Figure 2-4. Based on a study conducted by the City of Brea, there is sufficient capacity in the downstream sewer system to accommodate the maximum predicted wastewater flow from the proposed project (OC W&R 2009). Brea Power has submitted a sewer permit application to the Orange County Sanitation District and has received provisional approval.

The proposed project would not exceed water treatment requirements of the California Regional Water Quality Control Board, Santa Ana Region, nor would the project require or result in the construction of new water or wastewater treatment facilities (OC W&R 2009).

3.9.2.1.3 *Storm Water System*

The proposed project would not require or result in the construction of new storm water drainage facilities or expansion of existing facilities. Drainage from the project site would be collected by the existing Olinda Alpha Landfill storm water collection system. No impacts would occur. The proposed project would be required to comply with the National Pollutant Discharge Elimination System program and would obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit 99-08-DWQ). As part of the National Pollutant Discharge Elimination System permitting, Brea Power would prepare a storm water pollution prevention plan for the proposed project (OC W&R 2009).

3.9.2.1.4 *Hazardous Materials*

The new gas-to-energy facility would use 19 percent aqueous ammonia as part of normal operation to inject into the gas turbine exhaust for the control of NO_x emissions. The aqueous ammonia would be stored in a new 10,000-gallon tank at the site. Although 19 percent aqueous ammonia is not considered a regulated toxic or flammable substance under California Accidental Release Prevention Program or by the EPA, it is considered here in this EA because it presents similar environmental concerns as hazardous materials, such as the risk of exposure in the event of a release.

OC W&R performed a hazard assessment that includes an analysis of the worst-case accidental aqueous ammonia release scenario as defined under California Accidental Release Prevention Program Level 1 (OC W&R 2009). This analysis was performed for 20 percent aqueous ammonia. The results of the worst-case release analysis indicate that the toxic endpoint of 0.14 milligrams per liter for an aqueous ammonia release would occur approximately 0.1 mile from the tank. An analysis of the proposed project vicinity indicates that no other facilities or residences occur within 0.1 mile of the ammonia storage tank. Therefore, in the event of a worst case accidental release of ammonia, no residents or off-site worker would be exposed to any potential hazards associated with aqueous ammonia. Brea Power will prepare and submit a risk management plan to the Orange County Fire Department for the ammonia stored at the new facility.

The proposed project would not alter how the facility handles, treats, stores or disposes of hazardous materials. Any hazardous materials at the facility would continue to be managed in accordance with the applicable federal, state, and local rules and regulations. The proposed project would not increase the amount of hazardous materials currently transported, stored, used, or generated by existing operations. Brea Power will also prepare a site-specific emergency response plan for the new gas-to-energy facility. The response plan would ensure that any impacts from an accidental release would be minimal.

Since the proposed project is not expected to increase the transportation, use or disposal of hazardous materials, the proposed project is not expected to 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.

3.9.2.2 No-Action Alternative

Under the No-Action Alternative, DOE would not provide funding to Brea Power and the facility would not be built. No impacts to utilities, energy, or materials would occur. The beneficial impacts of the projected energy savings of 2,216 trillion Btu per year and projected annual production of 280,320 MW of clean energy would not be realized.

3.10 Transportation

3.10.1 AFFECTED ENVIRONMENT

This section describes the existing transportation infrastructure on and surrounding the project site. The key intersections in proximity to the proposed project are: (1) the north and south off-bound ramps of State Route 57 and Imperial Highway; (2) the intersection of Imperial Highway and Valencia Avenue; and (3) the intersection of Valencia Avenue and Birch Street. The existing gas-to-energy facility at the Olinda Alpha Landfill currently employs four full-time workers. These employees arrive at 6:00 a.m. and leave at 2:30 p.m. Monday through Friday. The associated worker commuting trips are the typical daily transportation-related activities associated with the gas-to-energy facility. The only other transportation activities are the deliveries of calibration gas (once per month) and engine oil (once per month), on separate occasions. In addition, approximately every two months a waste disposal contractor arrives by truck to pick up hazardous waste for removal offsite.

3.10.2 ENVIRONMENTAL CONSEQUENCES

3.10.2.1 Proposed Project

Potential transportation impacts are not anticipated to be significant. Based on the preliminary construction estimates, traffic in and around the facility may increase temporarily during construction activities. Construction activities would generate a temporary increase in traffic in the areas surrounding the facility due to an increase in worker commute trips and equipment deliveries. Fifteen worker trips and five truck trips are expected during peak daily construction activities (OC W&R 2009). The proposed project is not expected to cause short-term construction-related impacts on circulation patterns, the capacity of the street system, or exceed the level of service standard established by the county congestion management agency for designated roads or highways.

Short-term impacts to transportation from off-site utility construction would occur. During off-site utility construction, it would be important to maintain access north of the Valencia Avenue/Sandpiper Way intersection, where Valencia Avenue narrows to two lanes. This would ensure that waste-hauling vehicles do not stack up within the intersection, potentially blocking access to and from Sandpiper Way and Santa Fe Road. Access during construction would therefore be maintained north of the Valencia Avenue/Sandpiper Way intersection by ensuring that at least one travel lane is available at all times by the use of traffic control construction workers. The traffic control construction workers would work together, via walkie-talkies, to stop traffic traveling south on Valencia Avenue, while traffic proceeds north on Valencia Avenue. After a specified period of time (no more than a few minutes), the construction workers would then stop northbound traffic, so that southbound traffic could then proceed. This would be done throughout the working day until trenching and shoring activities have been completed north of the Valencia Avenue/Sandpiper Way intersection. By using this system, which is

commonly used on construction projects, adequate access to and from Sandpiper Way and Santa Fe road would be provided at all times.

The proposed project would not significantly alter the current existing transportation setting. The addition of three or four additional full-time permanent employees to the current four full-time employees once the turbines are operational, would increase daily vehicle commuter trips to and from the affected facility but have little impact on operational vehicle trips. Truck deliveries would not increase.

3.10.2.2 No-Action Alternative

Under the No-Action Alternative, DOE would not provide funding to Brea Power and the facility would not be built. No impacts to transportation would occur.

3.11 The Relationship Between Local Short-Term Uses of the Environment and the Maintenance and Enhancement of Long-Term Productivity

Council on Environmental Quality regulations require consideration of "the relationship between short-term uses of man's environment and the maintenance and enhancement of long-term productivity" (40 CFR 1502.16). Construction and operation of the facility would require short-term uses of land and other resources. Short-term use of the environment, as used here, is that used during the life of the project, whereas long-term productivity refers to the period of time after the project has been decommissioned, the equipment removed, and the land reclaimed and stabilized. The short-term use of the project site for the proposed facility would not affect the long-term productivity of the area. If it is decided at some time in the future that the project has reached its useful life, the facility and foundations could be decommissioned and removed, and the site reclaimed and re-vegetated to resemble a similar habitat to the pre-disturbance conditions.

3.12 Irreversible and Irretrievable Commitments of Resources

The proposed project would not cause an additional irretrievable commitment of land required for construction and operation of the new facility; because it would be constructed within the landfill operating boundary. There would be an irreversible commitment of energy and construction materials used to construct the facility and utility lines. DOE would also have expended the finances associated with the funding for the proposed project.

3.13 Unavoidable Adverse Impacts

Construction and operation of the proposed facility would cause unavoidable emissions of some criteria air pollutants. However, air pollutant concentrations would not exceed significance thresholds. Short-term adverse impacts from noise generated during the construction of the utility alignments along Valencia Avenue would occur; however, activities would comply with

all local noise ordinances. The need for construction materials, such as steel and concrete would be unavoidable, but would represent a small fraction of available materials. Short-term impacts to traffic during utility construction along Valencia Avenue could occur. However, access north of the Valencia Avenue/Sandpiper Way intersection would be maintained by ensuring at least one travel lane is available at all times using traffic control construction workers.

4. CUMULATIVE IMPACTS

Council on Environmental Quality regulations stipulate that the cumulative effects analysis within an EA consider the potential environmental impacts resulting from the "incremental impacts of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such actions" (40 CFR 1508.7). This chapter presents past, present, and reasonably foreseeable actions at the project site, followed by potential cumulative impacts.

4.1 Past, Present, and Reasonably Foreseeable Actions

Brea lies at the base of the Puente and Chino Hills, which provide a scenic contrast to the relatively flat lands upon which much of the city has been developed. The city's historical uses have also shaped the urban form and street patterns seen in Brea today. Historically, oil production represented the predominant use in the hillside areas, with the County's Olinda Alpha Landfill occupying many acres as well. During the 1980s and 1990s, the gradual depletion of oil resources in the hills prompted property owners to plan for alternative uses. In addition, environmental interests and state park planners recognized that actions were required to stop increased loss of open space and valuable habitat throughout the Puente and Chino Hills, and managed to secure many acres as permanent, protected open space use, such as Chino Hills State Park. The Brea General Plan identifies the community's vision for its collective future and establishes the fundamental framework to guide future decision-making about development, resource management, public safety, public services, and general community well-being (City of Brea 2003).

The proposed project site is at the Olinda Alpha Landfill. Proposed development projects in the general vicinity of the project site include one current project, upgrades to the Robert B. Diemer Water Treatment Plant; and three future projects, La Floresta, Canyon Crest, and capital improvement projects for the City of Brea.

The Metropolitan Water District of Southern California is upgrading the Robert B. Diemer Water Treatment Plant located in Yorba Linda, California approximately 2 miles southeast of the proposed project site. This project is adding a new ozone disinfection system to further improve water quality. Several new facilities will be constructed on the plant site. These new facilities include ozone contactors, an ozone generation building, improved electrical power facilities, oxygen storage facilities, and drought-tolerant landscaping. The Metropolitan Water District anticipates construction to start in the 3rd quarter of 2008 and be completed in the 1st quarter of 2012 (MWDSC 2008).

La Floresta is a proposal to develop two properties with mixed-use and residential uses. The two properties are 120 acres at the northeast corner of Valencia Avenue and Imperial Highway, approximately 1 mile south of the proposed project site; and 92 acres at the southwest corner of Birch Street and Kraemer Boulevard, approximately 2 miles southwest of the proposed project

site. This project is currently under review by the City of Brea. A draft final environmental impact report was published August 4, 2008 (City of Brea 2008a). For the Valencia Avenue/Imperial Highway site, 1,100 residential units, 156,800 square feet of mixed-use commercial, and 53 acres for a recreation center for project residents are proposed. For the Birch Street/Kraemer Boulevard Site, 76 acres of open space with a clubhouse community facility and 247 high-density residential dwellings are proposed. Regional recreational trails are proposed for both sites. Associated infrastructure, such as on-site circulation roads and connection to city utilities, would be expected.

The Canyon Crest project proposes to develop an approximate 368-acre site with 165 single family homes at the east end of Carbon Canyon, northwest of Carbon Canyon Road. This project is approximately 2.5 miles to the east of the proposed project site. This project was approved by the City of Brea Planning Commission on June 24, 2008 and has been appealed to the City Council. A final environmental impact report was published on April 22, 2008 (City of Brea 2008b). This project has received opposition from the community through written comments on the draft environmental impact report expressing concerns over its environmental impacts (City of Brea 2007a). Examples of the community's concerns include potential impacts to biological resources of the Puente-Chino Hills and traffic impacts to the residents in Olinda Village.

The City of Brea has planned some capital improvement projects in the vicinity of the proposed project site, including median work on Valencia Avenue and a Rails-to-Trails Project. The City plans to enhance the median of Valencia Avenue from Imperial Highway to just north of Sandpiper Way. The City plans to install a concrete, raised median with landscaping and uplighting in late 2011 and expects that the project will take approximately 6 months (Lising 2010). The Rails-to-Trails Project involves construction of a 10 to 15-foot wide dual bicycle and walking trail approximately 3.8 miles along existing road, rail, and flood control right-of-ways from Valencia Avenue in the east to Arovista Park in the west (City of Brea 2007b). The closest point to the proposed project is the end of the trail where it meets Valencia Avenue approximately 1.5 miles south of the Olinda Alpha Landfill. The City is in the process of finalizing the design and acquiring right-of-ways, and plans to start construction at the western end during the summer of 2010 (De Robbio 2010).

4.2 Cumulative Impacts Summary

Short-term impacts to the affected environment, as described in Chapter 3, would occur during construction of the proposed project and include increased exhaust emissions and noise from machinery, traffic, and visual impacts at the construction site. These impacts would be temporary and best construction management practices would be used to lessen these impacts to the extent practicable. It is unlikely that short-term cumulative impacts would occur from the proposed project when combined with the Diemer Plant upgrades, La Floresta, or Canyon Crest projects because of the distance between the projects and it is unlikely that construction of the proposed project would overlap temporally with the La Floresta or Canyon Crest developments

since they are still in the planning processes. Short-term cumulative impacts to air quality, noise, traffic and visual resources during construction could occur with the Valencia Avenue median enhancement project if it occurred simultaneously with the utility improvements for the proposed project. These impacts would be temporary and could be lessened with proper implementation of construction best management practices. Although, the potential exists for the proposed project to overlap temporally with the Rails to Trails Project, cumulative impacts are unlikely due to the distance between the projects. No long-term cumulative impacts are anticipated to occur.

5. CONCLUSIONS

DOE's proposed action would award a $10 million Recovery Act financial assistance grant to Brea Power. Brea Power would expand the existing gas collection system at the Alpha Olinda Landfill and build the new gas-to-energy facility across the street from the existing gas-to-energy facility, including a new transmission line and utility connections or upgrades. Once the new facility is operational, the existing facility would then be used only as a contingency.

During construction, vehicular and construction equipment exhaust would be a source of pollutant emissions, but would have a negligible impact on air quality. Landfill gas consists largely of methane, which is a very potent greenhouse gas. By using nearly 50,000 tons per year of methane from the landfill gas, the project would generate carbon dioxide equivalent reductions of greater than 1 million tons annually. Additionally, an indirect benefit would be an avoidance of over 120,000 tons of carbon dioxide per year from not using fossil fuels for generating a similar amount of electricity.

Minor, short-term adverse impacts from noise generated during the construction of the proposed utility alignments along Valencia would occur. However, activities would occur during normal daylight working hours and would be required to comply with all local noise ordinances. Short-term impacts to traffic during utility construction along Valencia Avenue could occur. However, access north of the Valencia Avenue/Sandpiper Way intersection would be maintained by ensuring at least one travel lane is available at all times using traffic control construction workers.

The proposed project would result in the removal of approximately 0.28 acre of coastal sage scrub which is not only a sensitive habitat but also critical habitat for the coastal California gnatcatcher, a federally listed threatened species. A Mitigated Negative Declaration 515 would allow for an off-site coastal sage scrub restoration program whereby Brea Power would pay the Puente Hills Landfill Native Habitat Preservation Authority (Habitat Authority) to restore coastal sage scrub within the Puente-Chino Hills preservation lands. Through the agreement, the Habitat Authority would restore up to 0.5 acre, and a minimum of 0.28 acre, of coastal sage scrub habitat within the Habitat Authority's preservation area to mitigate for the loss of coastal sage scrub habitat due to the project construction. These compensatory mitigation measures would ensure that coastal sage scrub habitat impacts would not be considered significant.

DOE consulted with the Office of Historic Preservation and provided additional information and a cultural resources literature search of the proposed project area as requested by that office. DOE determined that no historic properties would be affected by the proposed project. The Office of Historic Preservation has concurred with this determination.

Short-term beneficial socioeconomic impacts would occur from increased employment opportunities and spending in the local economy. Long-term beneficial impacts include the generation of approximately 280,320 MWh of electricity annually, and a savings of an estimated

2,216 trillion Btu annually from the landfill gas that would otherwise be flared. The power generated from the proposed project would be distributed to the local power grid via a new electric transmission line to be installed by the local utility company.

Under the No-Action Alternative, DOE would not provide funding to Brea Power and it is assumed that the proposed facility would not be built. No impacts to the existing environment would occur. In addition, the potential beneficial impacts discussed above would not be realized.

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APPENDIX A. DISTRIBUTION LIST

This appendix contains the list of persons and agencies who received a copy of this environmental assessment.

State and Local Offices

The Honorable Arnold Schwarzenegger
Governor of California
State Capitol Building
Sacramento, CA 95814

Dr. Susan Stratton, Ph.D., Supervisor
Cultural Resource Program
California Department of Parks and Recreation
Office of Historic Preservation
1416 9th Street, Room 1442
Sacramento, CA 95814

Ms. Terry Roberts
Director, California State Clearinghouse
Governor's Office of Planning and Research
P.O. Box 3044
Sacramento, CA 95812-3044

Mr. Matt Chirdon
California Department of Fish and Game
4949 Viewridge Avenue
San Diego, CA 92123

Mr. John J. Arnau, CEQA & Habitat
Program Manager
Orange County Waste & Recycling
300 N. Flower Street, Suite 400
Santa Ana, CA 92703

Federal Offices

Mr. Jonathan Snyder, USFWS
6010 Hidden Valley Road
Carlsbad, CA 92011

Mr. Kevin Haggerty
U.S. Department of Energy
Freedom of Information Act Reading Room
1000 Independence Avenue, SW, 1G-033
Washington, DC 20585

Tribes

Gabrieleno/Tongva San Gabriel Band of Mission Indians
Anthony Morales, Chairperson
P.O. Box 693
San Gabriel, CA 91778

Gabrielino Tongva Indians of California Tribal Council
Robert F. Doramae, Tribal Chair/Cultural
P.O. Box 490
Bellflower, CA 90707

Gabrielino Tongva Nation
Sam Dunlap, Chairperson
P.O. Box 86908
Los Angeles, CA 90086-0908

Gabrielino-Tongva Tribe
Linda Candelaria, Chairwoman
1875 Century Park East, Suite 1500
Los Angeles, CA 90067

Juaneno Band of Mission Indians
Alfred Cruz, Cultural Resources Coordinator
P.O. Box 25628
Santa Ana, CA 92799

Juaneno Band of Mission Indians, Acjachemen Nation
David Belardes, Chairperson
32161 Avenida Los Amigos
San Juan Capistrano, CA 92675

APPENDIX B. CONSULTATIONS

This appendix contains consultation correspondence between DOE and the U.S. Fish and Wildlife Service, the California Department of Parks and Recreation, Office of Historic Preservation, the Native American Heritage Commission, and six Native American tribes. NOTE: The attachments to the letter sent to the Office of Historic Preservation are identical to the figures in this environmental assessment and were not duplicated in this appendix. Additionally, Ridgewood Renewable Power, LLC is now Brea Power II, LLC. NOTE: Attachment 2 to the letter sent to the Office of Historic Preservation on September 20, 2010, is identical to Appendix D of this EA and is not duplicated here.

NATIONAL ENERGY TECHNOLOGY LABORATORY
Albany, OR • Morgantown, WV • Pittsburgh, PA

U.S. DEPARTMENT OF ENERGY

April 6, 2010

Jonathan Snyder
U.S. Fish and Wildlife Service
6010 Hidden Valley Road
Carlsbad, CA 92011

Dear Mr. Snyder:

The U.S. Department of Energy (DOE) is proposing to provide a financial grant to Ridgewood Renewable Power, LLC (RRP), as part of the Industrial Technologies Program, funded through the *American Recovery and Reinvestment Act of 2009* (Recovery Act). If funded, RRP would modify and expand an existing landfill gas collection system, and construct and operate a combined cycle power generation facility at the Olinda Alpha Landfill in Brea, Orange County, California. The proposed project would capture and maximize the productive use of substantial quantities of waste landfill gas generated and collected at the landfill. The power generated from the proposed undertaking, a net output of approximately 280,320 megawatts (MW) of electricity annually, would be distributed to the local power grid via a new 6,300 foot-long electric transmission line,

DOE recognizes that the U.S. Fish and Wildlife Service (USFWS) has reviewed the proposed project and associated mitigation through the documentation provided by Orange County Waste and Recycling and RRP under the California Environmental Quality Act (CEQA). As part of DOE's obligation in providing funding for the proposed project, DOE is required under Section 7 of the *Endangered Species Act* to use its authority to ensure actions are approved, funded, or carried out to protect both flora and fauna that are considered threatened or endangered species, or proposed for listing as threatened or endangered species, on the proposed project site. This letter summarizes the findings of the biological assessment conducted at the proposed project site, as well as the proposed mitigation measures reviewed by USFWS.

Listed species: The USFWS Carlsbad Office website (http://www.fws.gov/carlsbad/) was accessed to determine if any federally listed species occur in the vicinity of the project location. Eleven plant species, 3 invertebrate, 2 amphibian, 2 mammal, and 11 avian species are federally listed in Orange County. Due to the site being used as a landfill, habitat is not available at the site to support the listed mammal, amphibian, and invertebrate species as well as the many wetland and coastal listed plant and bird species. Additionally, a biological assessment for the proposed project in Brea, California was completed in May 2009 by LSA Associates, Inc. on behalf of Southern California Edison (SCE). The on-site assessment focused on a 200-foot

3610 Collins Ferry Road, P.O. Box 880, Morgantown, WV 26507

buffer of the existing overhead and underground transmission lines to document species occurrences and to evaluate the existing habitat types within the proposed impact area, including the suitability of habitat for the presence of various special-status species. The area surrounding the project site contains potentially suitable habitat to support a number of California plant and wildlife species of concern; however, no special-status species were observed during the biological surveys.

***Special habitats*:** The northern portion of the proposed Southern California Edison (SCE) electric transmission alignment occurs within federally designated critical habitat for the federally listed as threatened coastal California gnatcatcher (*Polioptila californica californica*). However, according to the biological assessment, potentially suitable habitat to support the California gnatcatcher does not exist along the proposed SCE electric transmission alignment due to the 2008 Freeway Complex Fire. California gnatcatchers are known to occur in nearby locations, so while it is extremely unlikely that they will nest within the SCE electric transmission alignment, the potential for their occasional presence at any time remains moderately high.

The on-site portion of the project would result in the removal of approximately 0.28 acre of coastal sage scrub (CSS) planted as part of an earlier erosion control project. Protocol surveys for gnatcatchers were conducted from May-June 2009 and did not identify any nesting birds within the CSS located on the project site. However, a nesting pair of gnatcatchers was identified within CSS on the landfill in close proximity to the proposed project site.

Mitigation: DOE understands that the USFWS determined that removal of the CSS would not constitute a "take" of the species, but would require mitigation of the habitat loss (discussion between RRP and USFWS, July 22, 2009). RWP submitted a Habitat Monitoring and Off-Site Mitigation Plan to the USFWS and California Fish and Game on January 20, 2010. On February 4, 2010, Brea Power II LLC (managed by RRP and owner of the proposed project) entered into an agreement with Puente Hills Landfill Native Habitat Preservation Authority (Habitat Authority) to meet its compensatory mitigation obligations in connection with the proposed project by engaging the Habitat Authority to restore 0.5 acres of CSS habitat within the Habitat Authority's preservation area. The USFWS and California Department of Fish and Game have agreed that Brea Power II LLC's mitigation efforts will be met through their mitigation agreement with the Habitat Authority.

Conclusion: After its review of consultation that has already occurred on this project between RRP, USFWS, and the California Department of Fish and Game, DOE has concluded that providing funding for the construction and operation of a landfill gas and recovery project facility in Brea, California would have no effect on federally listed species since sensitive species are not present on the immediate project area. In addition, the CSS habitat affected

would be mitigated off-site and up to 0.5 acre of CSS habitat would be restored. Compensatory mitigation measures would ensure that special habitat impacts would not be significant.

DOE's National Energy Technology Laboratory is preparing a draft environmental assessment (EA) for this project. DOE will include correspondence with your office in an appendix to the EA. DOE will send a copy of the draft EA to your office and respond to any specific comments you may have. At this time, we anticipate implementing a 15-day public comment period for this proposed project.

Please forward the results of your review and any requests for additional information to Mark Lusk at DOE's National Energy Technology Laboratory using the contact information provided below:

Mr. Mark Lusk
U.S. Department of Energy
National Energy Technology Laboratory
3610 Collins Ferry Road
P. O. Box 880, MS B07
Morgantown, WV 26507-0880
Telephone: (304) 285-4145
Email: Mark_Lusk@netl.doe.gov

Since this is a Recovery Act project, we would appreciate a quick response to our request for consultation. If you have any questions or require clarification, please contact me at (304) 285-4145 or at mark.lusk@netl.doe.gov. Thank you in advance for your consideration.

Sincerely,

Mark W. Lusk
NEPA Document Manager

Enclosures

NETL NATIONAL ENERGY TECHNOLOGY LABORATORY
Albany, OR • Morgantown, WV • Pittsburgh, PA
U.S. DEPARTMENT OF ENERGY

March 22, 2010

Susan Stratton, PhD
Supervisor, Cultural Resource Program
California Department of Parks and Recreation
Office of Historic Preservation
1416 9th Street, Room 1442,
P.O. Box 942896
Sacramento, CA 95814

Dear Dr. Stratton:

The U.S. Department of Energy (DOE) is proposing to provide a financial grant to Ridgewood Renewable Power, LLC (RRP), as part of the Industrial Technologies Program, funded through the *American Recovery and Reinvestment Act of 2009* (Recovery Act). If funded, RRP would modify and expand an existing landfill gas collection system and construct and operate a combined cycle power generation facility at the Olinda Alpha Landfill in Brea, California. The proposed project would capture and maximize the productive use of substantial quantities of waste landfill gas generated and collected at the Olinda Alpha Landfill in Brea, California. The power generated from the proposed undertaking, a net output of approximately 280,320 megawatts (MW) of electricity annually, would be distributed to the local power grid via a new electric transmission line. The attachment provides a summary of information that is typically required for Section 106 reviews under the *National Historic Preservation Act*. The attached Figures 1 through 4 are supporting figures.

Based on DOE's analysis and as documented in this letter and its attachments, DOE has determined that no historic properties would be affected by this proposed project. In compliance with 36 CFR Part 800.4(d) (1), the Department asks the Office of Historic Preservation for its concurrence of this finding. DOE's National Energy Technology Laboratory is preparing a draft environmental assessment (EA) for this project. DOE will include correspondence with your office in an appendix to the EA. DOE will send you a copy of the draft EA and respond to any specific comments you may have. At this time, we anticipate implementing a 15-day public comment period for this proposed project.

Please forward the results of your review and any requests for additional information to Mark Lusk of the DOE's National Energy Technology Laboratory using the contact information provided below:

3610 Collins Ferry Road, P.O. Box 880, Morgantown, WV 26507

Mr. Mark Lusk
U.S. Department of Energy
National Energy Technology Laboratory
3610 Collins Ferry Road
P. O. Box 880, MS B07
Morgantown, WV 26507-0880
Telephone: (304) 285-4145
Email: Mark.Lusk@netl.doe.gov

Since this is a Recovery Act project, we would appreciate a quick response to our request for consultation. If you have any questions or require clarification, please contact me at (304) 285-4145 or at mark.lusk@netl.doe.gov. Thank you in advance for your consideration.

Sincerely,

Mark W.Lusk
NEPA Document Manager

Attachments

DOE'S PROPOSED FINANCIAL ASSISTANCE TO RIDGEWOOD RENEWABLE POWER, LLC FOR THE OLINDA COMBINED CYCLE ELECTRIC GENERATING PLANT FUELED BY WASTE LANDFILL GAS, BREA, CALIFORNIA

Project Location and Description. The proposed project site is located within the Olinda Alpha Landfill property, which is a currently operating landfill. The Olinda Alpha Landfill is located in unincorporated Orange County, north of the City of Brea, approximately 0.5 mile north of the intersection of Valencia Avenue and Carbon Canyon Road. On the United States Geological Survey Yorba Linda, California 7.5 minute topographic quadrangle map (dated 1981), the property is located within an unidentified Section within Township 3 South, Range 9 West, of the San Bernardino Base and Meridian. The street address for the landfill is 1942 North Valencia Avenue, Brea. The landfill location is shown on Figure 1.

In the early 1980s, a landfill gas-to-energy was developed at the Olinda Alpha Landfill to convert the landfill gas and generate approximately 5 megawatts (MW) of electricity. That facility is still in operation today, as shown in Figure 2, but only converts approximately 25 percent of the available landfill gas into electricity. The balance of the landfill gas is combusted in three flares. Ridgewood Renewable Power LLC (RRP) is currently proposing to expand the existing facility to make beneficial use of the excess landfill gas, a valuable renewable energy source. This modification would be partially funded by DOE and is the subject of this analysis. The new gas-to-energy facility project site is located approximately 550 feet from the existing gas-to-energy facility. The project site is approximately 1 acre, is on engineered fill, and has been completely graded. The three onsite existing flares and facility would remain operational and only be used for waste gases, emergency break downs or gas spikes exceeding the capacity of the new turbines.

Planned construction would include new buildings, water, sewer, and electrical infrastructure, storage tanks, and pipelines and the installation of power-generating equipment as shown in Figure 3. The proposed project also includes three additional off-site construction components along Valencia Avenue: 1) an approximate 6,200 foot long electrical transmission line; 2) fiber optic cable (co-located with the transmission line); and 3) sewer. The proposed locations for these components are shown in Figure 4.

Area of Potential Effect. The Area of Potential Effect (APE) for the proposed undertaking would be the 1-acre area within the landfill boundary and the linear area along the alignments for utilities. The potential for the project to cause direct and indirect effects on historical, archaeological or paleontological resources is negligible for the following reasons:

- The proposed facility is located on engineered backfill and will not require any subsurface or excavation activities.

- Construction activities will be limited primarily to the pouring of concrete pads for the four turbines, receiving equipment, and placing fencing on-site.
- The records of the California Historical Resources Inventory System for Orange County, housed at the South Central Coastal Information Center, California State University Fullerton, were searched by Southern California Edison for the area proposed for the transmission line interconnection. The results of this search indicated no findings in the subject area.
- A visual archaeological inspection was made by Southern California Edison in November 2008 of the transmission line project area. No resources were encountered and the portion of the project adjacent to Valencia Avenue to Brea Substation has negligible probability for significant resources. It should be noted that vegetation cover in the area just west of the generation site restricted surface visibility. The probability of encountering resources in the vegetated area west of the generation site is considered low, but the actual transmission line infrastructure locations shall be more thoroughly inspected when pole positions, access roads and pulling locations have been identified.
- About two-thirds of the transmission line would be built on soil that is classified as Developed, including Ornamental Landscaping. These mapped units included paved and unpaved roads, sidewalks, buildings and parking lots, oil pumps and associated platforms, and ornamental landscaping. Relatively little excavation of native soil would be required for construction of the transmission line.
- The transmission line construction crew shall be given standard instructions to stop work in the unlikely event of a resource or human remains discovery and seek guidance from Southern California Edison Corporate Environment, Health & Safety Division before proceeding.

DOE Determination of No Potential Effect. Based on DOE's analysis and as documented in this letter and its attachments, DOE has determined that no historic properties would be affected by this proposed project.

>>> <Jonathan_D_Snyder@fws.gov> 4/13/2010 1:56 PM >>>

In Reply Refer To:
FWS-OR-08B0097-10I0619

Subject: Informal Section 7 Consultation for Landfill Gas to Energy Project at Olinda Landfill, Orange County, California

Dear Mr. Lusk:

This is in response to your correspondence dated April 6, 2010 requesting informal consultation regarding project-related effects to the federally threatened coastal California gnatcatcher (*Polioptila californica californica*, "gnatcatcher") and its designated critical habitats in accordance with section 7 of the Endangered Species Act of 1973 (Act), as amended (16 U.S.C. 1531 et seq.). The project will be implemented by Ridgewood Renewable Power and will be funded, in part, with a grant from the Department of Energy. Based on the information contained in your correspondence and a subsequent telephone conversation on April 13, 2010, you have determined that the project will not impact the gnatcatcher, as protocol surveys did not document the gnatcatcher within the project footprint. In addition, you are requesting our concurrence that the project may affect, but is not likely to adversely affect gnatcatcher critical habitat.

The proposed project is located the Chino/Puente Hills in the City of Brea, and involves the construction of a new power generation facility on an existing disturbed site and installation of a new gas collection pipeline and electric transmission line. The project will impact 0.28 acre of existing coastal sage scrub planted for erosion control purposes. Although the project footprint is not occupied by gnatcatcher, it does contain primary constituent elements (i.e.coastal sage scrub suitable for gnatcatcher foraging, breeding, and dispersal) within Unit 9 of gnatcatcher critical habitat. To offset impacts to CSS and gnatcatcher critical habitat, the project proponent will fund the restoration of 0.5 acre of coastal sage scrub within the Chino/Puente Hills by the Puente Hills Landfill Native Habitat Authority. This restoration site is also within Unit 9 of gnatcatcher critical habitat. Because the project will impact only a small amount of unoccupied gnatcatcher critical habitat in a location that is not anticipated to substantively interfere with gnatcatcher dispersal and will offset impacts by restoring a greater amount of habitat in the same unit in a location that will likely be occupied by gnatcatchers, we concur that the project may affect, but is not likely to adversely affect gnatcatcher critical habitat.

Therefore, the interagency consultation requirements of section 7 of the Act have been satisfied. Although our concurrence ends informal consultation, obligations under section 7 of the Act shall be reconsidered if new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not previously considered or this action is subsequently modified in a manner that was not considered in this assessment.

Thank you for your coordination on this project. If you have any questions, please contact me using the information provided below.

Sincerely,
Jonathan Snyder

_____
Jonathan Snyder
U.S. Fish and Wildlife Service
6010 Hidden Valley Road, Suite 101
Carlsbad, CA 92011
(760) 431-9440 x307
jonathan_d_snyder@fws.gov

Consultation Request

Additional Information

California Native Americans
Cultural Resources
Strategic Plan
Commissioners
Federal Laws and Codes
State Laws and Codes
Local Ordinances and Codes
Additional Information

Return to CNAHC Home Page

LOCAL GOVERNMENT TRIBAL CONSULTATION LIST REQUEST

NATIVE AMERICAN HERITAGE COMMISSION
915 CAPITOL MALL, ROOM 364
SACRAMENTO, CA 95814
(916) 653-4082
(916) 657-5390 - Fax

Project Title:
Ridgewood Renewable Power LLC's Olinda Combined Cycle Electric Generating Plant Fueled by Waste Landfill Gas

Local Government/Lead Agency:
U.S. Department of Energy

Contact Person:
Mark Lusk

Street Address:
National Energy Technology Laboratory 3610 Collins Ferry Road

City:
Morgantown, WV **Zip:** 26507-0880

Phone: (304) 285-4145 **Fax:**
(304) 285-4403 (FAX)

Specific Area Subject to Proposed Action

County: Orange County, CA

City/Community: Brea

Local Action Type:

___ General Plan ___ General Plan Element ___ General Plan Amendment

_X_ Specific Plan ___ Specific Plan Amendment

___ Pre-planning Outreach Activity

Project Description: Project Description on the following page.

http://www.nahc.ca.gov/consult_request.html[3/9/2010 10:29:02 AM]

Project Description

The proposed project site is located within the Olinda Alpha Landfill property, which is a currently operating landfill. The Olinda Alpha Landfill is located in unincorporated Orange County, north of the City of Brea, approximately 0.5 mile north of the intersection of Valencia Avenue and Carbon Canyon Road. On the United States Geological Survey Yorba Linda, California 7.5 minute topographic quadrangle map (dated 1981), the property is located within an unidentified Section within Township 3 South, Range 9 West, of the San Bernardino Base and Meridian. The street address for the landfill is 1942 North Valencia Avenue, Brea.

In the early 1980s, a landfill gas-to-energy was developed at the Olinda Alpha Landfill to convert the landfill gas and generate approximately 5 megawatts (MW) of electricity. That facility is still in operation today, but only converts approximately 25 percent of the available landfill gas into electricity. The balance of the landfill gas is combusted in three flares. Ridgewood Renewable Power LLC (RRP) is currently proposing to expand the existing facility to make beneficial use of the excess landfill gas, a valuable renewable energy source. This modification would be partially funded by DOE and is the subject of this analysis. The new gas-to-energy facility project site is located approximately 550 feet from the existing gas-to-energy facility. The project site is approximately 1 acre, is on engineered fill, and has been completely graded. The three onsite existing flares and facility would remain operational and only be used for waste gases, emergency break downs or gas spikes exceeding the capacity of the new turbines.

The proposed project also includes three additional off-site construction components along Valencia Avenue: 1) an approximate 6,200 foot long electrical transmission line; 2) fiber optic cable (co-located with the transmission line); and 3) sewer.

Consultation Request

X Sacred Lands File Search and Native American Contacts List Request

Information Below is Required for a Sacred Lands File Search

USGS Quadrangle Name Yorba Linda (dated 1981)

Township 3S **Range** 9W **Section(s)** unidentified on map

NAHC Use Only

Date Received: _____

Date Completed _____

Native American Tribal Consultation lists are only applicable for consulting with California Native American tribes per Government Code Section 65352.3.

http://www.nahc.ca.gov/consult_request.html[3/9/2010 10:29:02 AM]

STATE OF CALIFORNIA — Arnold Schwarzenegger, Governor

NATIVE AMERICAN HERITAGE COMMISSION
915 CAPITOL MALL, ROOM 364
SACRAMENTO, CA 95814
(916) 653-6251
Fax (916) 657-5390
Web Site www.nahc.ca.gov
ds_nahc@pacbell.net

April 26, 2010

Mr. Mark Lusk
UNITED STATES DEPARTMENT OF ENERGY
3610 Collins Ferry Road
Morgantown, West Virginia 26507-0880

Sent by FAX to: 304-285-4403
No. Pages: 4

Re: Request for a Sacred Lands File Search and Native American Contacts List **for the proposed "Ridgewood Renwable Power, LLC's Olinda Combined Cycle Electric Generating Plant Fueled by Waste Landfill Gas Project"**; located (near the City of Brea) in the in an unincorporated area of Orange County, California

Dear Mr. Lusk:

The Native American Heritage Commission (NAHC), the State of California 'Trustee Agency' for the protection and preservation of Native American cultural resources (c.f. CA Public Resources Code §21070; also c.f. *Environmental Protection Information Center v. Johnson [198]) 170 Cal App. 3rd 604*), was able to perform a record search of its Sacred Lands File (SLF) for the affected project area (APE) requested. The California Environmental Quality Act (CEQA; CA Public Resources Code Section 21000 – 21177)) requires that any project that causes a substantial adverse change in the significance of an historical resource, that includes archaeological resources, is a 'significant effect' requiring the preparation of an Environmental Impact Report (EIR) per the California Code of Regulations §15064.5(b)(c)(f) CEQA guidelines). Section 15382 of the 2007 CEQA Guidelines defines a significant impact on the environment as "a substantial, or potentially substantial, adverse change in any of physical conditions within an area affected by the proposed project, including ...objects of historic or aesthetic significance." The NAHC SLF search **did not indicate** the presence of Native American cultural resources within one-half - mile radius of the proposed project site (APE).

This letter includes state and federal statutes relating to Native American historic properties of religious and cultural significance to American Indian tribes and interested Native American individuals as 'consulting parties' under both state and federal law.

Early consultation with Native American tribes in your area is the best way to avoid unanticipated discoveries once a project is underway., Culturally-affiliated tribes and individuals may have knowledge of the religious and cultural significance of the historic properties in the project area (e.g. APE). We recommend that you contact persons on the attached list of Native American contacts. Furthermore we suggest that you contact the California Historic Resources Information System (CHRIS) at the Office of Historic Preservation Coordinator's office (at (916) 653-7278, for referral to the nearest Information Center of which there are 10.

Consultation with tribes and interested Native American consulting parties, on the NAHC list ,should be conducted in compliance with the requirements of federal NEPA (42

U.S.C. 4321-43351) and Section 106 and 4(f) of federal NHPA (16 U.S.C. 470 [f]*et seq),* 36 CFR Part 800.3 (f) (2), the President's Council on Environmental Quality (CSQ; 42 U.S.C. 4371 *et seq.*) and NAGPRA (25 U.S.C. 3001-3013), as appropriate. . The 1992 *Secretary of the Interior's Standards for the Treatment of Historic Properties* were revised so that they could be applied to all historic resource types included in the National Register of Historic Places and including *cultural landscapes.*

Lead agencies should consider avoidance, as defined in Section 15370 of the California Environmental Quality Act (CEQA) when significant cultural resources could be affected by a project. Also, Public Resources Code Section 5097.98 and Health & Safety Code Section 7050.5 provide for provisions for accidentally discovered archeological resources during construction and mandate the processes to be followed in the event of an accidental discovery of any human remains in a project location other than a 'dedicated cemetery.

Although tribal consultation under the California Environmental Quality Act (CEQA; CA Public Resources Code Section 21000 – 21177) is 'advisory' rather than mandated, the NAHC does request 'lead agencies' to work with tribes and interested Native American individuals as 'consulting parties.' However, the 2006 SB 1059 the state enabling legislation to the Federal Energy Policy Act of 2005, does mandate tribal consultation for the 'electric transmission corridors. This is codified in the California Public Resources Code, Chapter 4.3, and §25330 to Division 15, requires consultation with California Native American tribes, and identifies both federally recognized and non-federally recognized on a list maintained by the NAHC. Consultation on specific projects must be the result of an on-going relationship between Native American tribes and lead agencies, project proponents and their contractors, in the opinion of the NAHC. A relationship built around regular meetings and informal involvement with local tribes will lead to more qualitative consultation tribal input on specific projects.

The response to this search for Native American cultural resources is conducted in the NAHC Sacred Lands Inventory, established by the California Legislature (CA Public Resources Code §5097.94(a) and is exempt from the CA Public Records Act (c.f. California Government Code §6254.10) although Native Americans on the attached contact list may wish to reveal the nature of identified cultural resources/historic properties. Confidentiality of "historic properties of religious and cultural significance' may also be protected the under Section 304 of the NHPA or at the Secretary of the Interior' discretion if not eligible for listing on the National Register of Historic Places. The Secretary may also be advised by the federal Indian Religious Freedom Act (cf. 42 U.S.C, 1996) in issuing a decision on whether or not to disclose items of religious and/or cultural significance identified in or near the APE and possibly threatened by proposed project activity.

If you have any questions about this response to your request, please do not hesitate to contact me at (916) 653-6251.

Sincerely,

Dave Singleton
Program Analyst

Attachment: Native American Contacts

2

Native American Contacts
April 26, 2010
Orange County

Ti'At Society
Cindi Alvitre
6515 E. Seaside Walk, #C
Long Beach , CA 90803
calvitre@yahoo.com
(714) 504-2468 Cell
Gabrielino

Gabrielino Tongva Nation
Sam Dunlap, Chairperson
P.O. Box 86908
Los Angeles , CA 90086
samdunlap@earthlink.net
(909) 262-9351 - cell
Gabrielino Tongva

Juaneno Band of Mission Indians Acjachemen Nation
David Belardes, Chairperson
32161 Avenida Los Amigos
San Juan Capistrano CA 92675
DavidBelardes@hotmail.com
(949) 293-8522
(949) 493-4933 - Home
Juaneno

Juaneno Band of Mission Indians Acjachemen Nation
Anthony Rivera, Chairman
31411-A La Matanza Street
San Juan Capistrano CA 92675-2674
arivera@juaneno.com
(949) 488-3484
(530) 354-5876 - cell
Juaneno

Tongva Ancestral Territorial Tribal Nation
John Tommy Rosas, Tribal Admin.
tattnlaw@gmail.com
310-570-6567
Gabrielino Tongva

Gabrielino Tongva Indians of California Tribal Council
Robert F. Dorarnae, Tribal Chair/Cultural
P.O. Box 490
Bellflower , CA 90707
gtongva@verizon.net
562-761-6417 - voice
562-925-7989 - fax
Gabrielino Tongva

Gabrieleno/Tongva San Gabriel Band of Mission
Anthony Morales, Chairperson
PO Box 693
San Gabriel , CA 91778
(626) 286-1262 -FAX
(626) 286-1632
(626) 286-1758 - Home
(626) 286-1262 Fax
Gabrielino Tongva

Juaneno Band of Mission Indians
Alfred Cruz, Culural Resources Coordinator
P.O. Box 25628
Santa Ana , CA 92799
alfredgcruz@sbcglobal.net
714-998-0721
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714-321-1944 - cell
Juaneno

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code. Also, federal National Environmental Policy Act (NEPA), National Historic Preservation Act, Section 106 and federal NAGPRA.

This list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed Ridgewood Renewable Power LLC's Olinda Combined Cycle Electric Generating Plan; located near the City of Brea; in an unincorporated area of Orange County, California for which a Sacred lands File search and Native American Contacts list were requested.

Native American Contacts
April 26, 2010
Orange County

Juaneno Band of Mission Indians
Adolph 'Bud' Sepulveda, Vice Chairperson
P.O. Box 25828 Juaneno
Santa Ana , CA 92799
bssepul@yahoo.net
714-838-3270
714-914-1812 - CELL
bsepul@yahoo.net

Gabrielino-Tongva Tribe
Linda Candelaria, Chairwoman
1875 Century Park East, Suite 1500
Los Angeles , CA 90067 Gabrielino
(310) 587-2203
310-428-5767- cell
(310) 587-2281
lcandelaria1@gabrielinoTribe.org

Juaneño Band of Mission Indians
Sonia Johnston, Tribal Chairperson
P.O. Box 25628 Juaneno
Santa Ana , CA 92799
sonia.johnston@sbcglobal.
(714) 323-8312

Gabrielino-Tongva Tribe
Bernie Acuna
1875 Century Pk East #1500 Gabrielino
Los Angeles , CA 90067
(310) 587-2203
(310) 428-7720 - cell
(310) 587-2281

Juaneno Band of Mission Indians Acjachemen Nation
Joyce Perry; Representing Tribal Chairperson
4955 Paseo Segovia Juaneno
Irvine , CA 92612
949-293-8522

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NATIONAL ENERGY TECHNOLOGY LABORATORY
Albany, OR • Morgantown, WV • Pittsburgh, PA

U.S. DEPARTMENT OF ENERGY

May 5, 2010

Gabrieleno/Tongva San Gabriel Band of Mission Indians
Anthony Morales, Chairperson
P.O. Box 693
San Gabriel, CA 91778

Dear Mr. Morales:

RE: U.S. Department of Energy Request for Consultation for the Ridgewood Renewable Power, LLC's Olinda Combined Cycle Electric Generating Plant Fueled by Waste Landfill Gas, Brea, Orange County, California

The U.S. Department of Energy (DOE) is proposing to provide a financial grant to Ridgewood Renewable Power, LLC (RRP), as part of the Industrial Technologies Program, funded through the *American Recovery and Reinvestment Act of 2009* (Recovery Act). If funded, RRP would modify and expand an existing landfill gas collection system and construct and operate a combined cycle power generation facility at the Olinda Alpha Landfill in Brea, California. The proposed project would capture and maximize the productive use of substantial quantities of waste landfill gas generated and collected at the Olinda Alpha Landfill in Brea, California. The power generated from the proposed undertaking, a net output of approximately 280,320 megawatts of electricity annually, would be distributed to the local power grid via a new electric transmission line.

The proposed project site is located within the Olinda Alpha Landfill property, which is a currently operating landfill. The Olinda Alpha Landfill is located in unincorporated Orange County, north of the city of Brea, approximately 0.5 mile north of the intersection of Valencia Avenue and Carbon Canyon Road. On the United States Geological Survey (USGS) Yorba Linda, California 7.5 minute topographic quadrangle map (dated 1981); the property is located within an unidentified Section within Township 3 South, Range 9 West, of the San Bernardino Base and Meridian. The street address for the landfill is 1942 North Valencia Avenue, Brea. The landfill location is shown on Figure 1.

In the early 1980s, a landfill gas-to-energy facility was developed at the Olinda Alpha Landfill to convert the landfill gas to renewable energy and generate approximately 5 megawatts of electricity. The facility is still in operation today, as shown in Figure 2, but only converts approximately 25 percent of the available landfill gas into electricity. The balance of the landfill gas is combusted in three flares. RRP proposes to expand the existing facility to make beneficial use of the excess landfill gas, a valuable renewable energy source. This modification would be partially funded by DOE and is the subject of this analysis. The proposed gas-to-energy expansion project site is approximately 550 feet from the existing gas-to-energy facility. The project site is approximately 1 acre, is on engineered fill, and has been completely graded. The

3610 Collins Ferry Road, P.O. Box 880, Morgantown, WV 26507

three onsite existing flares and facility would remain operational and only be used for waste gases, emergency break downs, or gas spikes exceeding the capacity of the new turbines.

Planned construction would include new buildings, water, sewer, and electrical infrastructure, storage tanks, and pipelines and the installation of power-generating equipment as shown in Figure 3. The proposed project also includes three additional off-site construction components along Valencia Avenue: (1) an approximate 6,200-foot-long electrical transmission line; (2) fiber optic cable (co-located with the transmission line); and (3) sewer. The proposed locations for these components are shown in Figure 4.

DOE has no reason to believe this project would cause impacts to tribal resources at the project site at the Olinda Alpha Landfill in Brea, California, for the following reasons: (1) In a letter dated April 26, 2010, to DOE, the Native American Heritage Commission indicated that its records search of its Sacred Lands File did not indicate the presence of Native American cultural resources within one-half mile of the proposed project site; (2) The proposed facility is located on engineered backfill and would not require subsurface or excavation activities; and (3) About two-thirds of the transmission line would be built on soil that is classified as Developed, including Ornamental Landscaping. Further, the area includes mapped units include paved and unpaved roads, sidewalks, buildings and parking lots, oil pumps and associated platforms, and ornamental landscaping. Relatively little excavation of native soil would be required for construction of the transmission line. Southern California Edison is conducting a Phase I Cultural Resources Survey of the proposed transmission line route.

An environmental assessment currently is being prepared for this project to meet the requirements of the *National Environmental Policy Act*. Results will be included in the assessment and, if necessary, coordinated with your tribe and/or the California State Historic Preservation Officer.

DOE is initiating consultation and requesting information your tribe might have on properties of traditional religious and cultural significance within the vicinity of the proposed RRP facility and any comments or concerns you have on the potential for this proposed project to affect those properties. This information is being requested to aid in the preparation of the environmental assessment and to meet DOE's obligations under Section 106 of the *National Historic Preservation Act* and the *Native American Graves Protection and Repatriation Act of 1990*. If you have any such information, require additional information, or have any questions or comments about this project, please contact the DOE's National Energy Technology Laboratory as soon as possible at the following:

Mr. Mark Lusk
U.S. Department of Energy
National Energy Technology Laboratory
3610 Collins Ferry Road
P. O. Box 880, MS B07
Morgantown, WV 26507-0880
Telephone: (304) 285-4145
Email: Mark.Lusk@netl.doe.gov

DOE will include correspondence with your office in an appendix to the environmental assessment and will send a copy of the draft assessment to your office and respond to any specific comments you might have. At this time, we anticipate implementing a 15-day public comment period for this proposed project.

Because this is a Recovery Act project, we would appreciate a quick response to our request for consultation. If you have any questions or require clarification, please contact me as noted above. Thank you in advance for your consideration.

Sincerely,

Mark Lusk
NEPA Document Manager

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NATIONAL ENERGY TECHNOLOGY LABORATORY
Albany, OR • Morgantown, WV • Pittsburgh, PA

U.S. DEPARTMENT OF ENERGY

May 5, 2010

Gabrielino Tongva Indians of California Tribal Council
Robert F. Doramae, Tribal Chair/Cultural
P.O. Box 490
Bellflower, CA 90707

Dear Mr. Doramae:

RE: U.S. Department of Energy Request for Consultation for the Ridgewood Renewable Power, LLC's Olinda Combined Cycle Electric Generating Plant Fueled by Waste Landfill Gas, Brea, Orange County, California

The U.S. Department of Energy (DOE) is proposing to provide a financial grant to Ridgewood Renewable Power, LLC (RRP), as part of the Industrial Technologies Program, funded through the *American Recovery and Reinvestment Act of 2009* (Recovery Act). If funded, RRP would modify and expand an existing landfill gas collection system and construct and operate a combined cycle power generation facility at the Olinda Alpha Landfill in Brea, California. The proposed project would capture and maximize the productive use of substantial quantities of waste landfill gas generated and collected at the Olinda Alpha Landfill in Brea, California. The power generated from the proposed undertaking, a net output of approximately 280,320 megawatts of electricity annually, would be distributed to the local power grid via a new electric transmission line.

The proposed project site is located within the Olinda Alpha Landfill property, which is a currently operating landfill. The Olinda Alpha Landfill is located in unincorporated Orange County, north of the city of Brea, approximately 0.5 mile north of the intersection of Valencia Avenue and Carbon Canyon Road. On the United States Geological Survey (USGS) Yorba Linda, California 7.5 minute topographic quadrangle map (dated 1981), the property is located within an unidentified Section within Township 3 South, Range 9 West, of the San Bernardino Base and Meridian. The street address for the landfill is 1942 North Valencia Avenue, Brea. The landfill location is shown on Figure 1.

In the early 1980s, a landfill gas-to-energy facility was developed at the Olinda Alpha Landfill to convert the landfill gas to renewable energy and generate approximately 5 megawatts of electricity. The facility is still in operation today, as shown in Figure 2, but only converts approximately 25 percent of the available landfill gas into electricity. The balance of the landfill gas is combusted in three flares. RRP proposes to expand the existing facility to make beneficial use of the excess landfill gas, a valuable renewable energy source. This modification would be partially funded by DOE and is the subject of this analysis. The proposed gas-to-energy expansion project site is approximately 550 feet from the existing gas-to-energy facility. The project site is approximately 1 acre, is on engineered fill, and has been completely graded. The

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three onsite existing flares and facility would remain operational and only be used for waste gases, emergency break downs, or gas spikes exceeding the capacity of the new turbines.

Planned construction would include new buildings, water, sewer, and electrical infrastructure, storage tanks, and pipelines and the installation of power-generating equipment as shown in Figure 3. The proposed project also includes three additional off-site construction components along Valencia Avenue: (1) an approximate 6,200-foot-long electrical transmission line; (2) fiber optic cable (co-located with the transmission line); and (3) sewer. The proposed locations for these components are shown in Figure 4.

DOE has no reason to believe this project would cause impacts to tribal resources at the project site at the Olinda Alpha Landfill in Brea, California, for the following reasons: (1) In a letter dated April 26, 2010, to DOE, the Native American Heritage Commission indicated that its records search of its Sacred Lands File did not indicate the presence of Native American cultural resources within one-half mile of the proposed project site; (2) The proposed facility is located on engineered backfill and would not require subsurface or excavation activities; and (3) About two-thirds of the transmission line would be built on soil that is classified as Developed, including Ornamental Landscaping. Further, the area includes mapped units include paved and unpaved roads, sidewalks, buildings and parking lots, oil pumps and associated platforms, and ornamental landscaping. Relatively little excavation of native soil would be required for construction of the transmission line. Southern California Edison is conducting a Phase I Cultural Resources Survey of the proposed transmission line route.

An environmental assessment currently is being prepared for this project to meet the requirements of the *National Environmental Policy Act*. Results will be included in the assessment and, if necessary, coordinated with your tribe and/or the California State Historic Preservation Officer.

DOE is initiating consultation and requesting information your tribe might have on properties of traditional religious and cultural significance within the vicinity of the proposed RRP facility and any comments or concerns you have on the potential for this proposed project to affect those properties. This information is being requested to aid in the preparation of the environmental assessment and to meet DOE's obligations under Section 106 of the *National Historic Preservation Act* and the *Native American Graves Protection and Repatriation Act of 1990*. If you have any such information, require additional information, or have any questions or comments about this project, please contact the DOE's National Energy Technology Laboratory as soon as possible at the following:

Mr. Mark Lusk
U.S. Department of Energy
National Energy Technology Laboratory
3610 Collins Ferry Road
P. O. Box 880, MS B07
Morgantown, WV 26507-0880
Telephone: (304) 285-4145
Email: Mark.Lusk@netl.doe.gov

DOE will include correspondence with your office in an appendix to the environmental assessment and will send a copy of the draft assessment to your office and respond to any specific comments you might have. At this time, we anticipate implementing a 15-day public comment period for this proposed project.

Because this is a Recovery Act project, we would appreciate a quick response to our request for consultation. If you have any questions or require clarification, please contact me as noted above. Thank you in advance for your consideration.

Sincerely,

Mark Lusk
NEPA Document Manager

4 Attachments:
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NETL NATIONAL ENERGY TECHNOLOGY LABORATORY
Albany, OR • Morgantown, WV • Pittsburgh, PA
U.S. DEPARTMENT OF ENERGY

May 5, 2010

Gabrielino Tongva Nation
Sam Dunlap, Chairperson
P.O. Box 86908
Los Angeles, CA 90086-0908

Dear Mr. Dunlap:

RE: U.S. Department of Energy Request for Consultation for the Ridgewood Renewable Power, LLC's Olinda Combined Cycle Electric Generating Plant Fueled by Waste Landfill Gas, Brea, Orange County, California

The U.S. Department of Energy (DOE) is proposing to provide a financial grant to Ridgewood Renewable Power, LLC (RRP), as part of the Industrial Technologies Program, funded through the *American Recovery and Reinvestment Act of 2009* (Recovery Act). If funded, RRP would modify and expand an existing landfill gas collection system and construct and operate a combined cycle power generation facility at the Olinda Alpha Landfill in Brea, California. The proposed project would capture and maximize the productive use of substantial quantities of waste landfill gas generated and collected at the Olinda Alpha Landfill in Brea, California. The power generated from the proposed undertaking, a net output of approximately 280,320 megawatts of electricity annually, would be distributed to the local power grid via a new electric transmission line.

The proposed project site is located within the Olinda Alpha Landfill property, which is a currently operating landfill. The Olinda Alpha Landfill is located in unincorporated Orange County, north of the city of Brea, approximately 0.5 mile north of the intersection of Valencia Avenue and Carbon Canyon Road. On the United States Geological Survey (USGS) Yorba Linda, California 7.5 minute topographic quadrangle map (dated 1981), the property is located within an unidentified Section within Township 3 South, Range 9 West, of the San Bernardino Base and Meridian. The street address for the landfill is 1942 North Valencia Avenue, Brea. The landfill location is shown on Figure 1.

In the early 1980s, a landfill gas-to-energy facility was developed at the Olinda Alpha Landfill to convert the landfill gas to renewable energy and generate approximately 5 megawatts of electricity. The facility is still in operation today, as shown in Figure 2, but only converts approximately 25 percent of the available landfill gas into electricity. The balance of the landfill gas is combusted in three flares. RRP proposes to expand the existing facility to make beneficial use of the excess landfill gas, a valuable renewable energy source. This modification would be partially funded by DOE and is the subject of this analysis. The proposed gas-to-energy expansion project site is approximately 550 feet from the existing gas-to-energy facility. The project site is approximately 1 acre, is on engineered fill, and has been completely graded. The three onsite existing flares and

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facility would remain operational and only be used for waste gases, emergency break downs, or gas spikes exceeding the capacity of the new turbines.

Planned construction would include new buildings, water, sewer, and electrical infrastructure, storage tanks, and pipelines and the installation of power-generating equipment as shown in Figure 3. The proposed project also includes three additional off-site construction components along Valencia Avenue: (1) an approximate 6,200-foot-long electrical transmission line; (2) fiber optic cable (co-located with the transmission line); and (3) sewer. The proposed locations for these components are shown in Figure 4.

DOE has no reason to believe this project would cause impacts to tribal resources at the project site at the Olinda Alpha Landfill in Brea, California, for the following reasons: (1) In a letter dated April 26, 2010, to DOE, the Native American Heritage Commission indicated that its records search of its Sacred Lands File did not indicate the presence of Native American cultural resources within one-half mile of the proposed project site; (2) The proposed facility is located on engineered backfill and would not require subsurface or excavation activities; and (3) About two-thirds of the transmission line would be built on soil that is classified as Developed, including Ornamental Landscaping. Further, the area includes mapped units include paved and unpaved roads, sidewalks, buildings and parking lots, oil pumps and associated platforms, and ornamental landscaping. Relatively little excavation of native soil would be required for construction of the transmission line. Southern California Edison is conducting a Phase I Cultural Resources Survey of the proposed transmission line route.

An environmental assessment currently is being prepared for this project to meet the requirements of the *National Environmental Policy Act*. Results will be included in the assessment and, if necessary, coordinated with your tribe and/or the California State Historic Preservation Officer.

DOE is initiating consultation and requesting information your tribe might have on properties of traditional religious and cultural significance within the vicinity of the proposed RRP facility and any comments or concerns you have on the potential for this proposed project to affect those properties. This information is being requested to aid in the preparation of the environmental assessment and to meet DOE's obligations under Section 106 of the *National Historic Preservation Act* and the *Native American Graves Protection and Repatriation Act of 1990*. If you have any such information, require additional information, or have any questions or comments about this project, please contact the DOE's National Energy Technology Laboratory as soon as possible at the following:

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U.S. Department of Energy
National Energy Technology Laboratory
3610 Collins Ferry Road
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Because this is a Recovery Act project, we would appreciate a quick response to our request for consultation. If you have any questions or require clarification, please contact me as noted above. Thank you in advance for your consideration.

Sincerely,

Mark Wfusk

Mark Lusk
NEPA Document Manager

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NETL NATIONAL ENERGY TECHNOLOGY LABORATORY
Albany, OR • Morgantown, WV • Pittsburgh, PA
U.S. DEPARTMENT OF ENERGY

May 5, 2010

Gabrielino-Tongva Tribe
Linda Candelaria, Chairwoman
1875 Century Park East, Suite 1500
Los Angeles, CA 90067

Dear Ms. Candelaria:

RE: U.S. Department of Energy Request for Consultation for the Ridgewood Renewable Power, LLC's Olinda Combined Cycle Electric Generating Plant Fueled by Waste Landfill Gas, Brea, Orange County, California

The U.S. Department of Energy (DOE) is proposing to provide a financial grant to Ridgewood Renewable Power, LLC (RRP), as part of the Industrial Technologies Program, funded through the *American Recovery and Reinvestment Act of 2009* (Recovery Act). If funded, RRP would modify and expand an existing landfill gas collection system and construct and operate a combined cycle power generation facility at the Olinda Alpha Landfill in Brea, California. The proposed project would capture and maximize the productive use of substantial quantities of waste landfill gas generated and collected at the Olinda Alpha Landfill in Brea, California. The power generated from the proposed undertaking, a net output of approximately 280,320 megawatts of electricity annually, would be distributed to the local power grid via a new electric transmission line.

The proposed project site is located within the Olinda Alpha Landfill property, which is a currently operating landfill. The Olinda Alpha Landfill is located in unincorporated Orange County, north of the city of Brea, approximately 0.5 mile north of the intersection of Valencia Avenue and Carbon Canyon Road. On the United States Geological Survey (USGS) Yorba Linda, California 7.5 minute topographic quadrangle map (dated 1981), the property is located within an unidentified Section within Township 3 South, Range 9 West, of the San Bernardino Base and Meridian. The street address for the landfill is 1942 North Valencia Avenue, Brea. The landfill location is shown on Figure 1.

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U.S. Department of Energy
National Energy Technology Laboratory
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Sincerely,

Mark Lusk

Mark Lusk
NEPA Document Manager

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NETL NATIONAL ENERGY TECHNOLOGY LABORATORY
Albany, OR • Morgantown, WV • Pittsburgh, PA
U.S. DEPARTMENT OF ENERGY

May 5, 2010

Juaneno Band of Mission Indians, Acjachemen Nation
David Belardes, Chairperson
32161 Avenida Los Amigos
San Juan Capistrano, CA 92675

Dear Mr. Belardes:

RE: U.S. Department of Energy Request for Consultation for the Ridgewood Renewable Power, LLC's Olinda Combined Cycle Electric Generating Plant Fueled by Waste Landfill Gas, Brea, Orange County, California

The U.S. Department of Energy (DOE) is proposing to provide a financial grant to Ridgewood Renewable Power, LLC (RRP), as part of the Industrial Technologies Program, funded through the *American Recovery and Reinvestment Act of 2009* (Recovery Act). If funded, RRP would modify and expand an existing landfill gas collection system and construct and operate a combined cycle power generation facility at the Olinda Alpha Landfill in Brea, California. The proposed project would capture and maximize the productive use of substantial quantities of waste landfill gas generated and collected at the Olinda Alpha Landfill in Brea, California. The power generated from the proposed undertaking, a net output of approximately 280,320 megawatts of electricity annually, would be distributed to the local power grid via a new electric transmission line.

The proposed project site is located within the Olinda Alpha Landfill property, which is a currently operating landfill. The Olinda Alpha Landfill is located in unincorporated Orange County, north of the city of Brea, approximately 0.5 mile north of the intersection of Valencia Avenue and Carbon Canyon Road. On the United States Geological Survey (USGS) Yorba Linda, California 7.5 minute topographic quadrangle map (dated 1981), the property is located within an unidentified Section within Township 3 South, Range 9 West, of the San Bernardino Base and Meridian. The street address for the landfill is 1942 North Valencia Avenue, Brea. The landfill location is shown on Figure 1.

In the early 1980s, a landfill gas-to-energy facility was developed at the Olinda Alpha Landfill to convert the landfill gas to renewable energy and generate approximately 5 megawatts of electricity. The facility is still in operation today, as shown in Figure 2, but only converts approximately 25 percent of the available landfill gas into electricity. The balance of the landfill gas is combusted in three flares. RRP proposes to expand the existing facility to make beneficial use of the excess landfill gas, a valuable renewable energy source. This modification would be partially funded by DOE and is the subject of this analysis. The proposed gas-to-energy expansion project site is approximately 550 feet from the existing gas-to-energy facility. The project site is approximately 1 acre, is on engineered fill, and has been completely graded. The

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three onsite existing flares and facility would remain operational and only be used for waste gases, emergency break downs, or gas spikes exceeding the capacity of the new turbines.

Planned construction would include new buildings, water, sewer, and electrical infrastructure, storage tanks, and pipelines and the installation of power-generating equipment as shown in Figure 3. The proposed project also includes three additional off-site construction components along Valencia Avenue: (1) an approximate 6,200-foot-long electrical transmission line; (2) fiber optic cable (co-located with the transmission line); and (3) sewer. The proposed locations for these components are shown in Figure 4.

DOE has no reason to believe this project would cause impacts to tribal resources at the project site at the Olinda Alpha Landfill in Brea, California, for the following reasons: (1) In a letter dated April 26, 2010, to DOE, the Native American Heritage Commission indicated that its records search of its Sacred Lands File did not indicate the presence of Native American cultural resources within one-half mile of the proposed project site; (2) The proposed facility is located on engineered backfill and would not require subsurface or excavation activities; and (3) About two-thirds of the transmission line would be built on soil that is classified as Developed, including Ornamental Landscaping. Further, the area includes mapped units include paved and unpaved roads, sidewalks, buildings and parking lots, oil pumps and associated platforms, and ornamental landscaping. Relatively little excavation of native soil would be required for construction of the transmission line. Southern California Edison is conducting a Phase I Cultural Resources Survey of the proposed transmission line route.

An environmental assessment currently is being prepared for this project to meet the requirements of the *National Environmental Policy Act*. Results will be included in the assessment and, if necessary, coordinated with your tribe and/or the California State Historic Preservation Officer.

DOE is initiating consultation and requesting information your tribe might have on properties of traditional religious and cultural significance within the vicinity of the proposed RRP facility and any comments or concerns you have on the potential for this proposed project to affect those properties. This information is being requested to aid in the preparation of the environmental assessment and to meet DOE's obligations under Section 106 of the *National Historic Preservation Act* and the *Native American Graves Protection and Repatriation Act of 1990*. If you have any such information, require additional information, or have any questions or comments about this project, please contact the DOE's National Energy Technology Laboratory as soon as possible at the following:

Mr. Mark Lusk
U.S. Department of Energy
National Energy Technology Laboratory
3610 Collins Ferry Road
P. O. Box 880, MS B07
Morgantown, WV 26507-0880
Telephone: (304) 285-4145
Email: Mark.Lusk@netl.doe.gov

DOE will include correspondence with your office in an appendix to the environmental assessment and will send a copy of the draft assessment to your office and respond to any specific comments you might have. At this time, we anticipate implementing a 15-day public comment period for this proposed project.

Because this is a Recovery Act project, we would appreciate a quick response to our request for consultation. If you have any questions or require clarification, please contact me as noted above. Thank you in advance for your consideration.

Sincerely,

Mark Wrisk

Mark Lusk
NEPA Document Manager

4 Attachments:
Figure 1. Proposed project location
Figure 2. Aerial photograph of proposed project site
Figure 3. Schematic of proposed facility
Figure 4. Proposed utility alignments

NATIONAL ENERGY TECHNOLOGY LABORATORY
Albany, OR • Morgantown, WV • Pittsburgh, PA

U.S. DEPARTMENT OF ENERGY

May 5, 2010

Juaneno Band of Mission Indians
Alfred Cruz, Cultural Resources Coordinator
P.O. Box 25628
Santa Ana, CA 92799

Dear Mr. Cruz:

RE: U.S. Department of Energy Request for Consultation for the Ridgewood Renewable Power, LLC's Olinda Combined Cycle Electric Generating Plant Fueled by Waste Landfill Gas, Brea, Orange County, California

The U.S. Department of Energy (DOE) is proposing to provide a financial grant to Ridgewood Renewable Power, LLC (RRP), as part of the Industrial Technologies Program, funded through the *American Recovery and Reinvestment Act of 2009* (Recovery Act). If funded, RRP would modify and expand an existing landfill gas collection system and construct and operate a combined cycle power generation facility at the Olinda Alpha Landfill in Brea, California. The proposed project would capture and maximize the productive use of substantial quantities of waste landfill gas generated and collected at the Olinda Alpha Landfill in Brea, California. The power generated from the proposed undertaking, a net output of approximately 280,320 megawatts of electricity annually, would be distributed to the local power grid via a new electric transmission line.

The proposed project site is located within the Olinda Alpha Landfill property, which is a currently operating landfill. The Olinda Alpha Landfill is located in unincorporated Orange County, north of the city of Brea, approximately 0.5 mile north of the intersection of Valencia Avenue and Carbon Canyon Road. On the United States Geological Survey (USGS) Yorba Linda, California 7.5 minute topographic quadrangle map (dated 1981), the property is located within an unidentified Section within Township 3 South, Range 9 West, of the San Bernardino Base and Meridian. The street address for the landfill is 1942 North Valencia Avenue, Brea. The landfill location is shown on Figure 1.

In the early 1980s, a landfill gas-to-energy facility was developed at the Olinda Alpha Landfill to convert the landfill gas to renewable energy and generate approximately 5 megawatts of electricity. The facility is still in operation today, as shown in Figure 2, but only converts approximately 25 percent of the available landfill gas into electricity. The balance of the landfill gas is combusted in three flares. RRP proposes to expand the existing facility to make beneficial use of the excess landfill gas, a valuable renewable energy source. This modification would be partially funded by DOE and is the subject of this analysis. The proposed gas-to-energy expansion project site is approximately 550 feet from the existing gas-to-energy facility. The project site is approximately 1 acre, is on engineered fill, and has been completely graded. The

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three onsite existing flares and facility would remain operational and only be used for waste gases, emergency break downs, or gas spikes exceeding the capacity of the new turbines.

Planned construction would include new buildings, water, sewer, and electrical infrastructure, storage tanks, and pipelines and the installation of power-generating equipment as shown in Figure 3. The proposed project also includes three additional off-site construction components along Valencia Avenue: (1) an approximate 6,200-foot-long electrical transmission line; (2) fiber optic cable (co-located with the transmission line); and (3) sewer. The proposed locations for these components are shown in Figure 4.

DOE has no reason to believe this project would cause impacts to tribal resources at the project site at the Olinda Alpha Landfill in Brea, California, for the following reasons: (1) In a letter dated April 26, 2010, to DOE, the Native American Heritage Commission indicated that its records search of its Sacred Lands File did not indicate the presence of Native American cultural resources within one-half mile of the proposed project site; (2) The proposed facility is located on engineered backfill and would not require subsurface or excavation activities; and (3) About two-thirds of the transmission line would be built on soil that is classified as Developed, including Ornamental Landscaping. Further, the area includes mapped units include paved and unpaved roads, sidewalks, buildings and parking lots, oil pumps and associated platforms, and ornamental landscaping. Relatively little excavation of native soil would be required for construction of the transmission line. Southern California Edison is conducting a Phase I Cultural Resources Survey of the proposed transmission line route.

An environmental assessment currently is being prepared for this project to meet the requirements of the *National Environmental Policy Act*. Results will be included in the assessment and, if necessary, coordinated with your tribe and/or the California State Historic Preservation Officer.

DOE is initiating consultation and requesting information your tribe might have on properties of traditional religious and cultural significance within the vicinity of the proposed RRP facility and any comments or concerns you have on the potential for this proposed project to affect those properties. This information is being requested to aid in the preparation of the environmental assessment and to meet DOE's obligations under Section 106 of the *National Historic Preservation Act* and the *Native American Graves Protection and Repatriation Act of 1990*. If you have any such information, require additional information, or have any questions or comments about this project, please contact the DOE's National Energy Technology Laboratory as soon as possible at the following:

Mr. Mark Lusk
U.S. Department of Energy
National Energy Technology Laboratory
3610 Collins Ferry Road
P. O. Box 880, MS B07
Morgantown, WV 26507-0880
Telephone: (304) 285-4145
Email: Mark.Lusk@netl.doe.gov

DOE will include correspondence with your office in an appendix to the environmental assessment and will send a copy of the draft assessment to your office and respond to any specific comments you might have. At this time, we anticipate implementing a 15-day public comment period for this proposed project.

Because this is a Recovery Act project, we would appreciate a quick response to our request for consultation. If you have any questions or require clarification, please contact me as noted above. Thank you in advance for your consideration.

Sincerely,

Mark W. Lusk

Mark Lusk
NEPA Document Manager

4 Attachments:
Figure 1. Proposed project location
Figure 2. Aerial photograph of proposed project site
Figure 3. Schematic of proposed facility
Figure 4. Proposed utility alignments

NATIONAL ENERGY TECHNOLOGY LABORATORY
Albany, OR • Morgantown, WV • Pittsburgh, PA

U.S. DEPARTMENT OF ENERGY

May 20, 2010

Susan Stratton, Ph.D.
Supervisor, Cultural Resource Program
California Department of Parks and Recreation
Office of Historic Preservation
1416 9th Street, Room 1442
P.O. Box 942896
Sacramento, CA 95814

Dear Dr. Stratton:

RE: Request for Concurrence from the Office of Historic Preservation regarding the Proposed Olinda Alpha Landfill in Brea, California

The purpose of this letter is to update you regarding the U.S. Department of Energy's (DOE) proposal to provide a financial assistance grant to Brea Power II, LLC (Brea Power; formerly Ridgewood Renewable Power, LLC), as part of the Industrial Technologies Program, funded through the *American Recovery and Reinvestment Act of 2009* (Recovery Act). Our original letter to you, dated March 22, 2010, provided a full description of DOE's proposed action. Mr. Ed Carroll of your office responded to our letter via email on March 29, 2010, with a few questions. Subsequently, our contractor, Melissa Russ, with JAD Environmental LLC, discussed the project with Mr. Carroll on the telephone. Mr. Carroll's questions and our responses to his questions are provided in Attachment 1 to this letter.

DOE's proposed action would provide a financial assistance grant to Brea Power to modify and expand an existing landfill gas collection system, and construct and operate a combined cycle power generation facility at the Olinda Alpha Landfill in Brea, California. Brea Power's proposed project would capture and maximize the productive use of substantial quantities of waste landfill gas generated and collected at the landfill. The power generated from the proposed undertaking, a net output of approximately 280 kilowatts of electricity annually, would be distributed to the local power grid via a new electric transmission line.

Mr. Carroll's questions centered on the possible need to conduct a cultural resources survey along the proposed transmission line route. Since the time of our original letter, Brea Power determined that installation of the new transmission line would not require any new excavation. The aboveground portion of the transmission line would be built over the current transmission line, with the new poles installed in the same locations as current poles. The underground portion of the transmission line would run under Valencia Avenue.

Attachment 2 provides a summary of information typically required for Section 106 reviews under the *National Historic Preservation Act*, including Figures 1 through 4. This attachment was updated to reflect the new transmission line information.

Based on DOE's analysis, as documented in this letter and its attachments, DOE determined that no historic properties would be affected by Brea Power's proposed project. In compliance with 36 CFR

800.4(d)(1), DOE is requesting the Office of Historic Preservation's concurrence on this finding. DOE's National Energy Technology Laboratory is preparing a draft environmental assessment (EA) for this project and will include correspondence with your office in an appendix to the EA. DOE will send you a copy of the draft EA and respond to any specific comments you might have. At this time, we anticipate implementing a 15-day public comment period for this proposed project.

Please forward the results of your review and any requests for additional information to Mark Lusk of the DOE's National Energy Technology Laboratory using the contact information provided below:

Mr. Mark Lusk
U.S. Department of Energy
National Energy Technology Laboratory
3610 Collins Ferry Road
P. O. Box 880, MS B07
Morgantown, WV 26507-0880
Telephone: (304) 285-4145
Facsimile: (304) 285-4403
Email: Mark.Lusk@netl.doe.gov

Since this is a Recovery Act project, we would appreciate a quick response to our request for concurrence. Thank you in advance for your assistance.

Sincerely,

Mark W. Lusk
NEPA Document Manager

Attachments

ATTACHMENT 1

The following includes questions posed by Ed Carroll in his March 29, 2010, email to DOE and DOE's responses.

Carroll: Have you contacted the Native American Heritage Commission and sent letters to all federally recognized tribes for this project. Please provide us with copies of each letter.

DOE: Yes, correspondence with the Native American Heritage Commission and tribes will be provided in Appendix B of the draft EA. If you need copies sooner, let us know.

Carroll: The letter mentions that a records search was performed for the transmission line interconnection. Did the search cover the entire project area or just the line? What is the proposed depth of the line's below grade components?

DOE: A records search was not performed. All areas where work would be performed have already been excavated; depth would not exceed 10 feet.

Carroll: How deep is the landfill and will the proposed construction activities exceed this depth?

DOE: At its deepest point, the landfill is approximately 300 feet deep. Excavation would not exceed 10 feet.

Carroll: Can you provide us with the results of the records search and the pedestrian archeological survey from 2008 with a summary and methodology provided by the archeologist who performed the survey?

DOE: As discussed with Mr. Carroll on the phone, a survey was not completed as previously indicated by Southern California Edison (SCE). The proposed route was walked by a field technician from SCE. No new excavation would occur to necessitate a survey.

Carroll: Access roads and staging areas should be identified in the APE justification/description

DOE: Access roads for construction would be the existing landfill roads. Staging areas would be the new plant site and an area to the east within the landfill that is currently used as a staging area (areas currently indicated as "ok" on attached drawing).


1942 Valencia Ave, Brea, CA 92821
Valencia Ave
OK
© 2010 Google
Google
Olinda Site - Office/Trailer, Laydown/Storage & Parking Locations
OPTION 2
PRELIMINARY
03-03-2010
Total Requested) 250 x 150 = 37,500
To be Relocated 1) 250 x 50 = 12,500
2) 125 x 100 = 12,500
62,500 SF
Proposed AREA 90,000 + SF

ATTACHMENT 2

DOE'S PROPOSED FINANCIAL ASSISTANCE TO BREA POWER II, LLC FOR THE OLINDA COMBINED CYCLE ELECTRIC GENERATING PLANT FUELED BY WASTE LANDFILL GAS, BREA, CALIFORNIA

Project Location and Description. The proposed project site is located within the Olinda Alpha Landfill property, which is a currently operating landfill. The Olinda Alpha Landfill is located in unincorporated Orange County, north of the City of Brea, approximately 0.5 mile north of the intersection of Valencia Avenue and Carbon Canyon Road. On the United States Geological Survey Yorba Linda, California 7.5 minute topographic quadrangle map (dated 1981), the property is located within an unidentified Section within Township 3 South, Range 9 West, of the San Bernardino Base and Meridian. The street address for the landfill is 1942 North Valencia Avenue, Brea. The landfill location is shown on Figure 1.

In the early 1980s, a landfill gas-to-energy was developed at the Olinda Alpha Landfill to convert the landfill gas and generate approximately 5 megawatts (MW) of electricity. That facility is still in operation today, as shown in Figure 2, but only converts approximately 25 percent of the available landfill gas into electricity. The balance of the landfill gas is combusted in three flares. Brea Power II LLC (Brea Power, formerly Ridgewood Renewable Power LLC) is currently proposing to expand the existing facility to make beneficial use of the excess landfill gas, a valuable renewable energy source. This modification would be partially funded by DOE and is the subject of this analysis. The new gas-to-energy facility project site is located approximately 550 feet from the existing gas-to-energy facility. The project site is approximately 1 acre, is on engineered fill, and has been completely graded. The three onsite existing flares and facility would remain operational and only be used for waste gases, emergency break downs or gas spikes exceeding the capacity of the new turbines.

Planned construction would include new buildings, water, sewer, and electrical infrastructure, storage tanks, and pipelines and the installation of power-generating equipment as shown in Figure 3. The proposed project also includes three additional off-site construction components along Valencia Avenue: 1) an approximate 6,200 foot long electrical transmission line; 2) fiber optic cable (co-located with the transmission line); and 3) sewer. The proposed locations for these components are shown in Figure 4.

Area of Potential Effect. The Area of Potential Effect (APE) for the proposed undertaking would be the 1-acre area within the landfill boundary and the linear area along the alignments for utilities. The potential for the project to cause direct and indirect effects on historical, archaeological or paleontological resources is negligible for the following reasons:

- The proposed facility is located on engineered backfill and will not require any subsurface or excavation activities.
- Construction activities will be limited primarily to the pouring of concrete pads for the four turbines, receiving equipment, and placing fencing on-site.

- No new excavation of native soil would be required for construction of the transmission line. On Valencia Avenue between Brea Substation and Lambert Road, about 1,300 feet the transmission line would be built over the current line. This work would involve replacing 10 existing 75 foot wood poles, with approximately 11-80 foot wood poles in the same locations. On Valencia Avenue between Lambert Road and the Olinda-Alpha Landfill, a 2,300-foot underground section of the transmission line would be constructed. Work will be done under Valencia Avenue and along the west curb face of the street side of Valencia Avenue. Once inside the Olinda-Alpha Landfill, an existing 2,700-foot section of a 12kV distribution line would be overbuilt. This work would involve the replacement of approximately 11-55 foot wood distribution poles with approximately 11-80 foot wood transmission poles in the same location as the old ones and the installation of 2,700 circuit feet of new transmission line. The existing 12kV distribution circuit would be rebuilt on to the new transmission poles.

- The transmission line construction crew shall be given standard instructions to stop work in the unlikely event of a resource or human remains discovery and seek guidance from Southern California Edison Corporate Environment, Health & Safety Division before proceeding.

- DOE has contacted the Native American Heritage Commission; they note that their Sacred Lands File search did not indicate the presence of Native American cultural resources within one-half mile of the area of potential effect.

DOE Determination of No Potential Effect. Based on DOE's analysis and as documented in this letter and its attachments, DOE has determined that no historic properties would be affected by this proposed project.

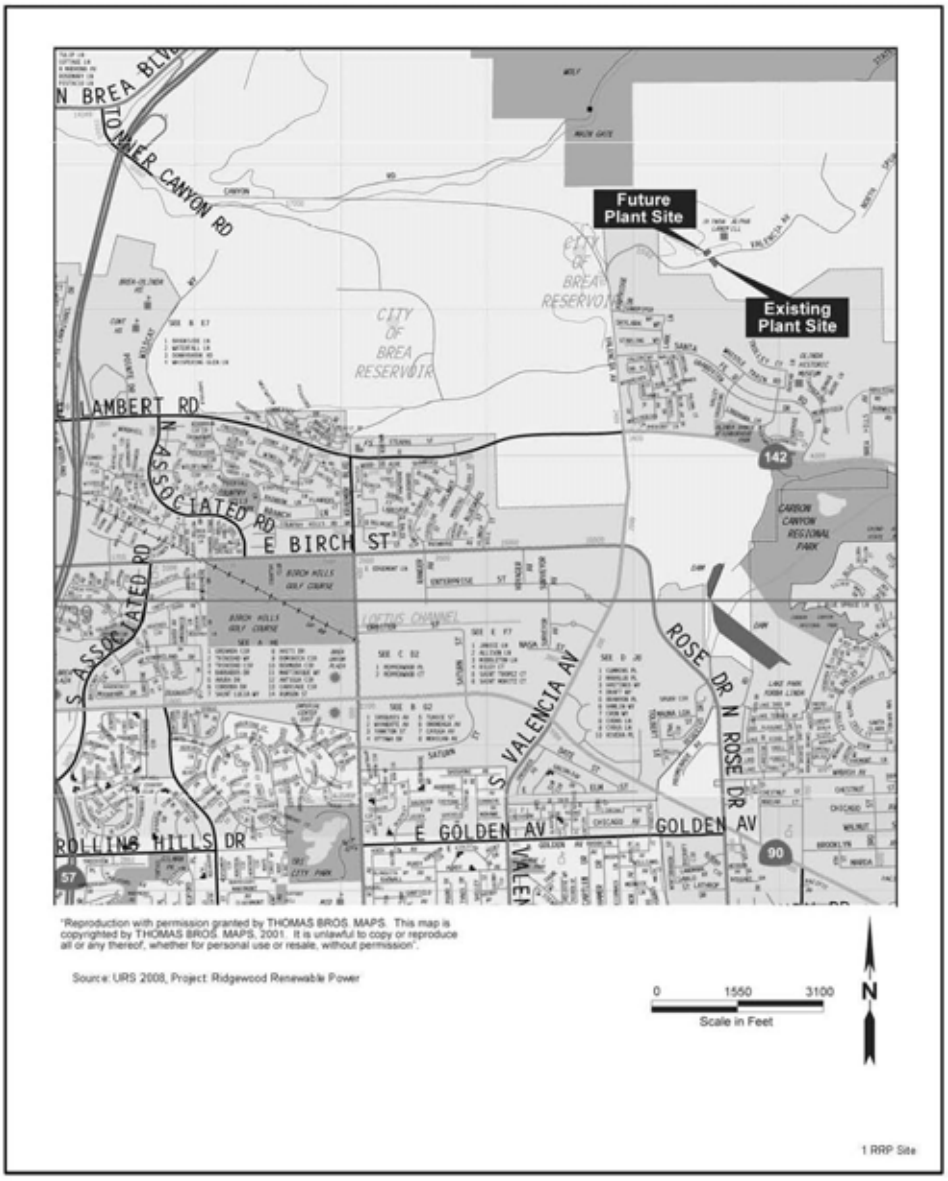


Figure 1. Site Location Map.

Figure 2. Aerial Photograph of Proposed Project Site.

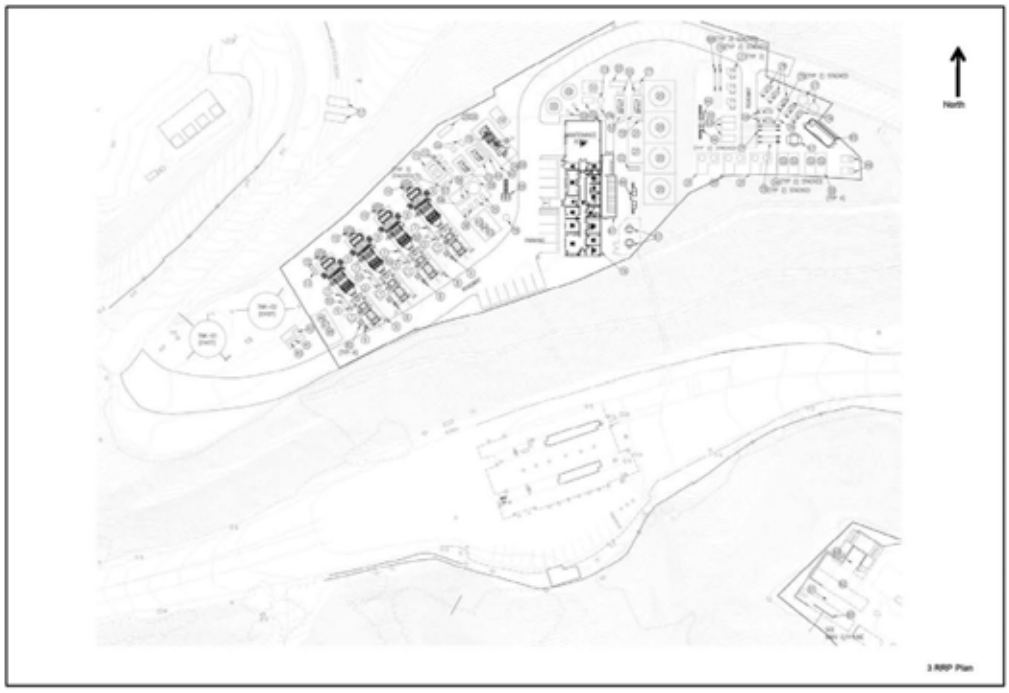


Figure 3. Proposed Site Plan

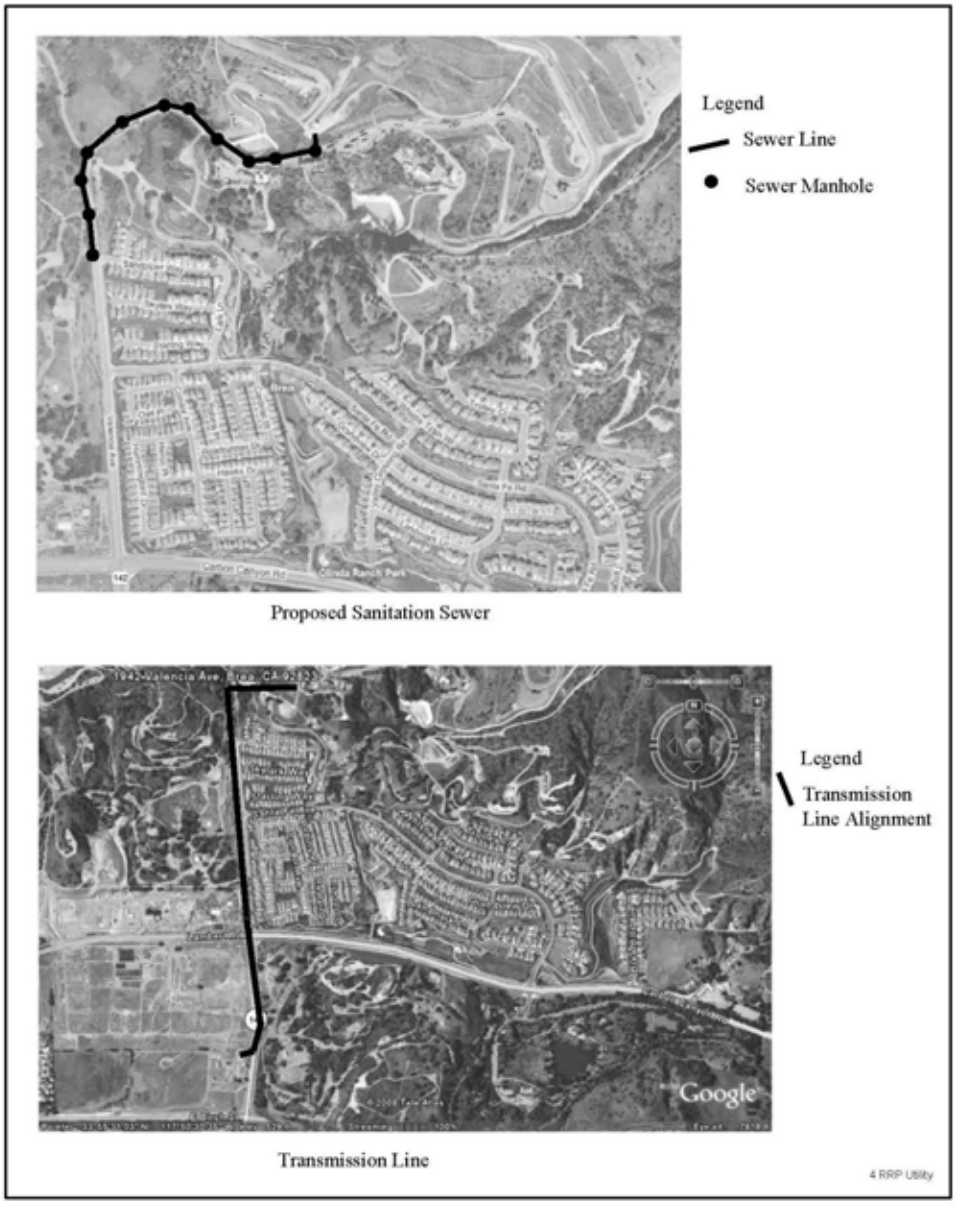


Figure 4. Proposed Utility Alignments.

NETL NATIONAL ENERGY TECHNOLOGY LABORATORY
Albany, OR • Morgantown, WV • Pittsburgh, PA
U.S. DEPARTMENT OF ENERGY

September 20, 2010

Susan Stratton, Ph.D.
Supervisor, Cultural Resource Program
California Department of Parks and Recreation
Office of Historic Preservation
1416 9th Street, Room 1442
P.O. Box 942896
Sacramento, CA 95814

RE: *Request for Concurrence from the Office of Historic Preservation regarding the Proposed Olinda Combined Cycle Electric Generating Plant Fueled by waste Landfill Gas at the Olinda Alpha Landfill in Brea, California*

Dear Dr. Stratton:

The purpose of this letter is to provide additional details regarding the proposed project and the results of the cultural resources literature search performed in July and August, 2010, as requested by your office. The U.S. Department of Energy's (DOE) proposed action would provide a financial assistance grant to Brea Power II, LLC (formerly Ridgewood Renewable Power, LLC), as part of the Industrial Technologies Program, funded through the *American Recovery and Reinvestment Act of 2009* (ARRA) as described in previous letters to you, dated March 22, 2010 and May 20, 2010, and described in detail in the draft Environmental Assessment (EA), dated May 2010.

Attachment 1 provides additional project details for the following:

- Plant Construction Details/Activities;
- Plant Layout;
- Line of Site Analysis;
- Transmission Line Construction Details/Activities;
- Sewer Line Construction Details/Activities;
- Site Plan.

Attachment 2 provides a letter report, dated September 10, 2010, with the results of the cultural resources literature search performed by MACTEC. Thirty cultural resources within 1 mile of the project area (proposed plant site and transmission line area) were located through the literature search; only two have been determined to be eligible for inclusion on the National Register of Historical Places (NRHP). A third site is within 108 feet of the proposed transmission line. However, this site is considered not eligible for inclusion on the NRHP, according to the California State Office of Historic Preservation. Attachment 3 provides a figure identifying these three sites in relation to the project area.

3610 Collins Ferry Road, P.O. Box 880, Morgantown, WV 26507
mark.lusk@netl.doe.gov@netl.doe.gov • Voice (304) 285-4145 • Fax (304) 285-4403 • www.netl.doe.gov

DOE has determined that the proposed construction would not affect either eligible resource. One site, 30-120001, is a late 1800s to 1940s artifact cluster associated with the Olinda oil town and is located nearly 0.5 mile east to southeast of the project area, on the north side of Carbon Canyon Road. As such, it would not be affected by construction. The other eligible site, 30-177012, known as Wildcatter's Park, is eligible as a historic district. This resource includes numerous buildings and structures located approximately 0.3 mile west of the proposed transmission line and approximately 500 feet north of Lambert Road. It includes one historic wellhead steel derrick; pumping, storage, transport, and maintenance buildings and structures; and a recreational park, originally constructed for employees of the Union Oil Company in approximately 1960. Due to the distance between the proposed transmission line and this site, direct effects from construction would not impact the historic resources. Since the transmission line would be built over the current line that exists along Valencia Avenue in this area, the viewshed would not be changed or impacted.

One historic-era site is located close to the proposed transmission line, along the west side of Valencia Avenue. Site 30-001690 consists of a small domestic debris scatter dating to the early twentieth century. It is considered not eligible to the NRHP, according to the California State Office of Historic Preservation. The site's eastern boundary is within 108 feet of the west flank of Valencia Avenue. On Valencia Avenue, between Lambert Road and the Olinda-Alpha Landfill, a 2,300-foot underground section of the transmission line would be constructed. The work would be done under Valencia Avenue and along the west curb face of the street side of Valencia Avenue. Because no new soil excavation would be required for construction of the transmission line, it is unlikely effects to this resource (Site 30-001690) would occur. In the event that cultural resources (such as, human remains, lithics, pottery, or remnants of older construction) are discovered during construction of the transmission line, work would cease in the area of the discovery, and the Office of Historic Preservation would be notified. A qualified archaeologist or a designated representative of the State Archaeologist would evaluate any such discovery and, in consultation with the Office of Historic Preservation, implement appropriate mitigation measures before construction activities would resume.

In addition to these three sites, a partnership of the City of Brea and California State Parks is preserving an area in the Olinda Ranch neighborhood approximately 0.6 mile to the west of Valencia, off of Santa Fe Road, as the Olinda Historic Museum and Park (Attachment 3). Again, due to the distance to the transmission line and the fact that the new transmission line would be built over the current line that along Valencia Avenue, no impacts to this park or its viewshed would occur.

DOE determined that no historic properties or cultural resources would be affected by Brea Power's proposed project. In compliance with 36 CFR 800.4(d) (1), DOE is requesting the Office of Historic Preservation's concurrence on this finding. DOE's National Energy Technology Laboratory has prepared a draft EA for this project and will include all correspondence with your office in an appendix to the final EA. The 15-day public comment period for this proposed project ended on June 14, 2010 and no comments were received.

Please forward the results of your review and any requests for additional information to me using the contact information provided below:

Mr. Mark Lusk
U.S. Department of Energy
National Energy Technology Laboratory
3610 Collins Ferry Road
P. O. Box 880, MS B07
Morgantown, WV 26507-0880
Telephone: (304) 285-4145
Facsimile: (304) 285-4403
Email: Mark.Lusk@netl.doe.gov

Since this is an ARRA project, we would appreciate a quick response to our request for concurrence. The grant recipient is anxiously awaiting an answer and DOE hopes to conclude its environmental review soon. Thank you in advance for your assistance.

Sincerely,

Mark W. Lusk
NEPA Document Manager

Cc: Charles Alsup-DOE/NETL

Enclosures

Attachment 1
Components of the Proposed Project
Olinda Alpha Landfill, Brea, CA

The Olinda Combined Cycle LFG Plant would consist of four (4) landfill gas fired, Solar Taurus 60 Combustion Turbine Generators (CTG's) and four (4) single pressure, dedicated Heat Recovery Steam Generators (HRSGs). The four (4) trains would be capable of producing approximately 104,000 lb/hr of 350 psig superheated steam at a temperature of 550°F for distribution to the single Steam Turbine Generator (STG). The four (4) CTG/HRSG trains and the one (1) STG would be capable of generating nominally 33 MW (gross) of electrical power in combined-cycle operation at the average annual ambient conditions. Each HRSG would include a selective catalytic reduction (SCR) unit to reduce nitrogen oxides (NOx) emissions and would include space provisions for a carbon monoxide (CO) catalyst section to be added if required in the future as well as a sacrificial layer for system protection. The SCR would be an aqueous ammonia-based system.

The CTG and gas compressors would be enclosed in weather proof and sound mitigating enclosures. In general, all other systems and equipment would be located outdoors and provisions shall be made for weather protection and sound mitigation.

The proposed new landfill gas to energy power plant would utilize all of the available landfill gas that is anticipated to be collected as of the new plant's commercial operation date. Any additional gas that may be produced and collected in the future would be used in one (1) or more of the three (3) internal combustion engine generators that comprise the existing plant. All or a substantial portion of the net electricity generated by the new plant, over and above its own auxiliary power requirements, would be sold to the City of Anaheim.

This paper presents the following components of the proposed project:

- Plant Construction Details/Activities
- Plant Layout
- Line of Site Analysis
- Transmission Line Construction Details/Activities
- Sewer Line Construction Details/Activities

The attached figure provides the proposed site plan.

Plant Construction Details/Activities

1) The new plant would be an outdoor facility.
2) The facility would be located completely within landfill boundaries.
3) The Project site is about 1 acre and is on engineered fill to a depth of approximately 7 feet.
4) No excavation of native soil is required.
5) The entire area has previously been graded.

6) Construction activities would be limited primarily to the pouring of concrete pads for the four turbines (total 8,000 square feet), receiving equipment (6,000 square feet), and placing fencing on-site. An electrical switchgear and control room (3,200 square feet) would be located adjacent to the concrete pads. Separate enclosures (400 square feet) would be provided for the continuous emissions monitoring systems. The excavation for concrete pads and/or foundations would not exceed 6 feet.
7) The four HRSG stacks would be 50 feet in height and would be the tallest structures on the facility by at least a factor of two.

Plant Layout

The new plant would have a perimeter fence. The fence would be eight (8) feet high industrial chain link fence with two (2) inch mesh, hot dipped galvanized, 1.8 oz per square foot of zinc coated surface area. The main access to the new plant would have an automatic gate at each entry and other gates per drawings. The new plant would be comprised of the following areas:

1) Landfill gas treatment and compression – The upper site (or easternmost portion of the plant) would house the landfill gas treatment and compression equipment.
2) Electrical power generation and balance of plant equipment – The lower site (or the central portion of the plant) would accommodate the electrical power generation and balance of plant equipment.
3) Buildings – The Control and Administration Building and Maintenance and Storage Building would be located between the upper and lower sites.

The major systems for each of these are described below.

<u>Landfill gas treatment and compression</u>
The landfill gas treatment and compression equipment would be on the easternmost portion of the new plant. Major systems located on the gas treatment and compression site would be:

- Blower systems – Four (4) 33 percent capacity each, motor driven collection blowers and two (2) 100 percent capacity each, motor driven booster blowers would deliver the landfill gas to the gas treatment train.

- Gas compression system – The landfill gas compression system would consist of inlet moisture separator, five (5) first stage and two (2) second stage flooded screw type compressors, inter- and after- coolers, lubrication system and dual outlet coalescing gas filters installed to provide fuel at the proper pressure for CTGs. The compressors would be motor driven, constant speed and would be water-cooled and weather protected, suitable for outdoor operation. Three (3) 33 percent capacity each landfill gas polishing units would be installed upstream of the gas turbines. The gas polishing vessels would be arranged to operate similarly to the bulk siloxane removal units. At the gas cleaning site, a bridge crane and cover structure would be provided over the gas compressor area.

- Siloxane removal system – A twin tower [#49 on attached figure] siloxane removal system would be designed so that one tower would be online adsorbing siloxanes, while the second tower would be in regeneration or stand-by for continuous siloxane removal. Monorails would be provided at the siloxane removal area.

Support equipment would include landfill gas coolers and chillers; moisture separator; blower oil water separator; gas water separator; and compressor oil coolers.

Electrical power generation and balance of plant equipment

The electrical power generation and balance of plant site would be in the central portion of the new plant. Major systems located on the electrical power generation and balance of plant site would be:

- Combustion turbine generators (CTGs) – Each of the four CTGs [#1 on attached figure] would be fully enclosed and complete with the gas turbine, generator, exciter, lube oil systems, starting systems, ventilation systems, water wash systems, control systems and fire detection/protection systems. The gas turbine, generator and most all support systems would be mounted within the enclosure. A separate carbon dioxide (CO_2) gas bottle rack would be provided for each CTG unit for fire protection within the unit enclosure. A separate water wash system would also be provided for periodic water washing of the gas turbine compressor in order to maintain peak performance. The CTG enclosure would provide noise mitigation and control of hot air ventilation discharges.

  Full length I-beams would be used to support maintenance of the gas turbine, generator and the other equipment within the overall package enclosure. It would include support structures, access ladders, and platforms.

- Heat recovery steam generators (HRSGs) – Each of the four HRSGs [#9 on attached figure] would be a traditional horizontal, single pressure unit designed to produce medium pressure superheated steam. An outlet stack [#10 on attached figure], 50 feet in height, with air emission test and sampling ports and a stack-sampling platform would also be provided for each HRSG. Walkways, ladders, and platforms would be required.

  Each HRSG would be equipped with a SCR system that uses ammonia in conjunction with a catalyst bed to reduce NO_X in the CTG exhaust gases. One (1) 8,000-gallon storage tank [#47 on attached figure] for aqueous ammonia would be located in this area.

- Steam turbine generator (STG) – One STG [#15 on attached figure] suitable for outdoor installation would be installed. The STG unit would be provided with a complete system of piping and valves integral to, or between, all equipment. Oil coolers, electro-hydraulic control system heat exchangers, and an exciter cooling air heat exchanger would also be required. A bridge crane would be provided for steam turbine case separation and rotor removal.

- Cooling water system – A cooling water system would be provided to meet the cooling demands of the CTGs, STG, chillers, and auxiliary cooling water system. The closed loop cooling water system would consist of the closed loop heat exchanger, closed loop cooling water pumps, an expansion tank [#26 on attached figure], a blowdown tank, and a STG condenser cooling tower [#20 on attached figure].

- Chilled water system – Two (2) separate chilled water systems would be provided. One system would provide chilled water to the CTGs for inlet air cooling for enhancing electric power output during warm ambient conditions. The second system would supply chilled water to the landfill gas treatment equipment. The systems would consist of motor driven, constant speed centrifugal chillers and associated chilled water pumps and accessories. There would be two CTG air inlet chiller cooling towers [#72 on attached figure].

- Condensate, feed-water, and steam systems – Condensate would be transferred from the STG condenser to the condensate pre-heater and then to the deaerator by two (2) 100 percent capacity, motor driven condensate transfer pumps. Makeup water from the plant water treatment unit would be mixed with the condensate in the deaerator as required. The condensate from the condensate pre-heater would be directed to a packaged deaerator unit for additional feedwater heating and for the removal of non-condensable gases, such as oxygen and carbon dioxide, in order to mitigate system corrosion. The single, 100 percent capacity deaerator would be composed of a deaerating/heating section and a storage tank that provides system surge capacity [#11 on attached figure]. Steam to the deaerator would be provided from the STG extraction port.

  Feed water would be supplied to the HRSG economizer by three (3) 50 percent capacity, motor driven, boiler feed-water pumps all taking suction from the deaerator mounted above. The pumps would be low speed and multi-stage. The pumps would be of carbon steel construction and equipped with mechanical seals. The units would be initially started manually from the control room with the redundant pump on automatic standby.

- Plant makeup water supply and treatment system – The plant water supply is currently brought to the site and stored in the existing water storage tanks. The tanks would provide water for a new plant fire protection system and would cover the future plant water requirements.

  The water treatment system would be provided with two (2) 100 percent capacity, reverse osmosis (RO) water filtration systems. A Plant Water Booster Pump would pressurize the city water supply to RO inlet pressure. The RO water product would be directed to a makeup water storage tank [#39 on attached figure] to accommodate system surge requirements. Two (2) 100 percent capacity, motor driven pumps would be provided to transfer water to the deaerator for makeup to the Plant systems.

- Wastewater system – All site process wastewater would be collected on the plant site. The treated wastewater would be collected in a wastewater collection tank [#32 on attached figure] after which the water could be directed to the sewer system. A wastewater system would be provided to handle both clean and oily water and contaminated run-off water from the plant and equipment

areas. Drainage water would be segregated to a reasonable extent with the potentially oily water routed through an oil/water separator. The clean water would be collected in two storage tanks [#17 and #57 on attached figure] and used for site dust suppression or discharged to the plant drainage system for routing off-site.

- Fire protection system – This system would use the two (2) existing water storage tanks on westernmost portion of plant.

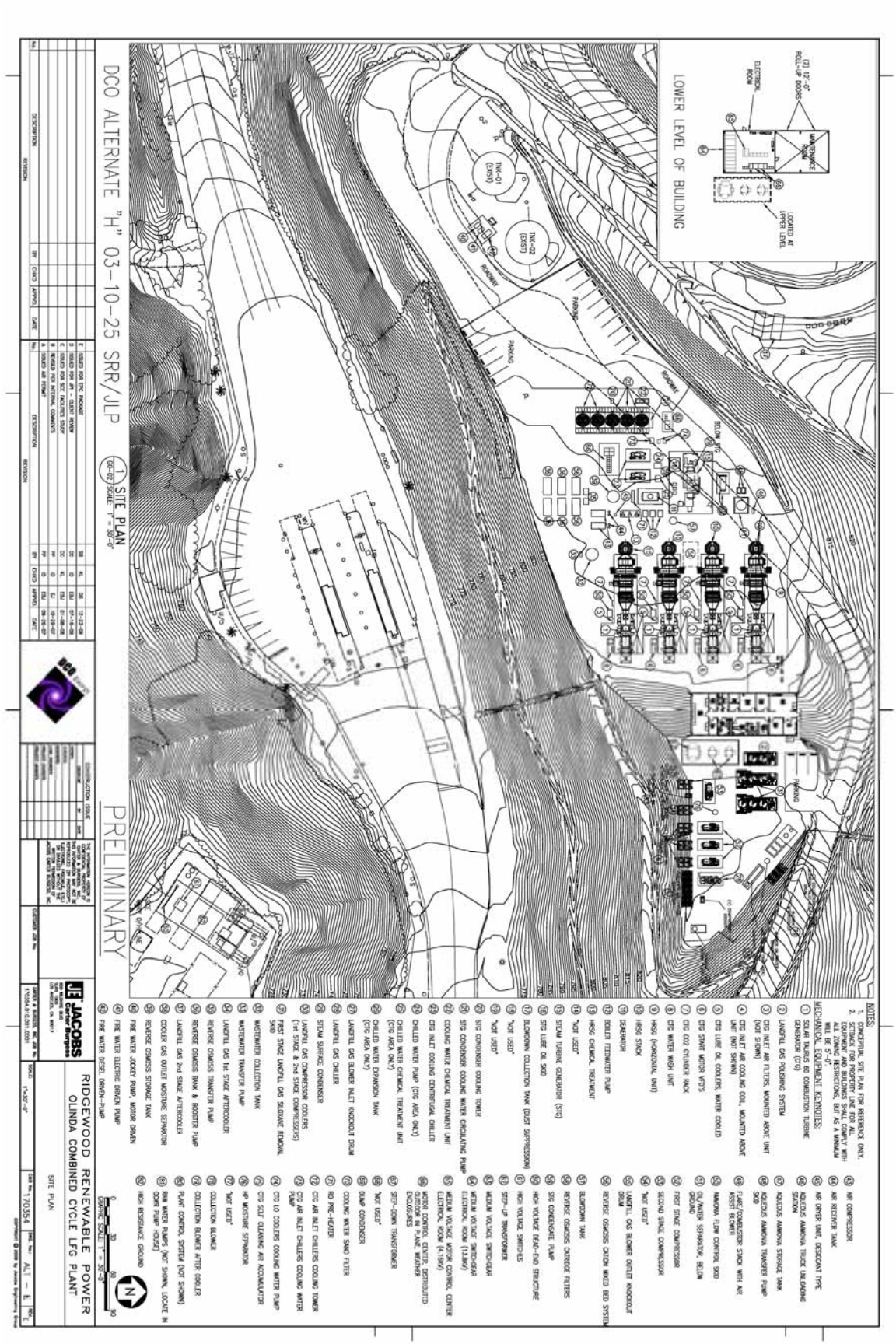
Piping would be installed on elevated pipe racks, on sleeper-type pipe supports and underground. Piping supports would be designed and installed to support both piping and electrical raceways. Underground piping would be coordinated with electrical and telecom duct-banks. Above ground drainage piping would be galvanized steel or cast iron and potable water piping would be galvanized steel or copper.

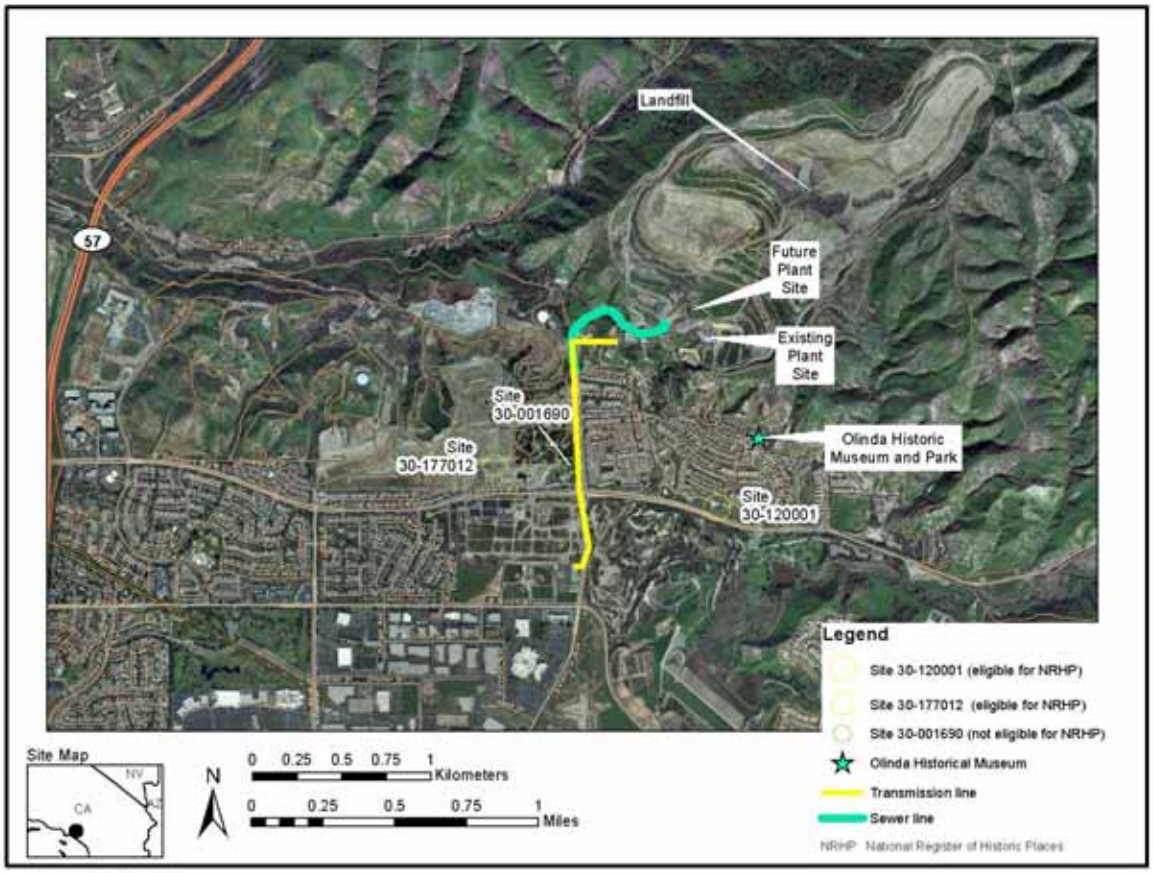
Buildings
The new plant would include the following occupied spaces for the operation, maintenance, and administration staff:

- Control and Administration Building – The building would provide a control room, engineering workstation, break room, lunch room, office space, shower and changing facility, janitor closet, and records and supplies storage area.
- Maintenance and Storage Building – The building would provide space for spare parts storage, repair shop, general, in-place equipment maintenance and repair.

Line-of-Site Analysis

As part of the Initial Study, Brea Power performed a line-of-sight analysis to determine the visibility of the proposed facility from locations in Olinda Ranch using existing topographical maps and dimensional data available for the equipment planned for use in the proposed facility. The analysis shows the proposed facility would not be visible from the locations in the Olinda Ranch residential subdivision (OC W&R 2009). On April 29, 2009, in order to confirm the findings of the line-of-sight analysis, Brea Power raised white balloons the diameter of the HRSG and cooling tower stacks and placed them at elevations corresponding to the highest elevation of this equipment. Observations were then made and photos taken at various locations within the Brea community. For the majority of the views, the balloons were either not visible or barely visible from all locations due to their relatively small size and the normal activities taking place at the landfill such as trucks going to and coming from the landfill working area (OC W&R 2009). The visibility of the actual equipment would be further diminished by matching the color of the equipment to the hillside behind the Project site. To ensure that the proposed project would not result in any significant impacts to aesthetics or visual resources, at the time of future closure of the landfill facility, Brea Power has committed to work with the County and the City of Brea to achieve specific landscaping treatments for the power plant facility, with a goal to more completely visually soften and camouflage the facility from off-site views.


DCO ALTERNATE "H" 03-10-25 SRR/JLP
PRELIMINARY
SITE PLAN
SCALE: 1" = 30'-0"
LOWER LEVEL OF BUILDING
NOTES:
RIDGEWOOD RENEWABLE POWER
OLINDA COMBINED CYCLE LFG PLANT
SITE PLAN
JACOBS



Attachment 3. Cultural Resources.

STATE OF CALIFORNIA – THE RESOURCES AGENCY ARNOLD SCHWARZENEGGER, *Governor*

OFFICE OF HISTORIC PRESERVATION
DEPARTMENT OF PARKS AND RECREATION
P.O. BOX 942896
SACRAMENTO, CA 94296-0001
(916) 653-6624 Fax: (916) 653-9824
calshpo@ohp.parks.ca.gov
www.ohp.parks.ca.gov

September 29, 2010

Reply in Reference To: DOE100326A

Mark Lusk
U.S. Department of Energy
National Energy Technology Laboratory
3610 Collins Ferry Road
P.O. Box 880, MS B07
Morgantown, WV 26507-0880

Re: Section 106 Consultation for Construction of Power Generator Facility and Modification and Expansion of Olinda Alpha Landfill, Brea, CA

Dear Mr. Lusk:

Thank you for initiating consultation regarding the Department of Energy's (DOE) efforts to comply with Section 106 of the National Historic Preservation Act of 1966 (16 U.S.C. 470f), as amended, and its implementing regulation found at 36 CFR Part 800. This project is being funded by the American Recovery and Reinvestment Act (ARRA).

You have identified the undertaking as the modification and expansion of the Olinda Alpha Landfill collection system in Brea to accommodate construction of a combined cycle power generator facility. The project as proposed consists of three major segments identified by the DOE as: 1) plant construction and layout, 2) transmission line construction and 3) sewer line construction. The entire facility will be constructed on approximately one acre within the boundaries of a graded landfill and no excavation of native soil is proposed. All staging will occur within the landfill boundaries. Project components for the construction segments include:

1) Plant construction and layout:
   - Installation of four turbines and receiving equipment on concrete pads not to exceed six feet in depth;
   - Installation of four 50 foot high Heat Recovery Steam Generators;
   - Installation of eight foot high industrial chain link perimeter fencing and automatic entrance gates;
   - Construction of a 3,200 square foot electrical switchgear and control room adjacent to concrete pads; and,
   - Construction of 400 square foot monitoring enclosures.

2) Transmission line:
   - Installation of approximately 1,300 feet of transmission line and fiber optic cable on Valencia Avenue between the Brea substation and Lambert Road and the replacement of ten 75 foot high wooden utility poles within the same locations;

- Installation of approximately 2,300 feet of below grade transmission line on Valencia Avenue between Lambert Road and Olinda-Alpha Landfill along the west curb face; and,
- Overbuilding and installation of two 2,700-foot transmission lines and the replacement and installation of 11 wooden utility poles within the landfill boundaries.

3) Sewer line:
   - Installation of approximately 2,800 feet of two foot by two foot sewer line along the landfill access road to connect with the municipal system at the north end of Valencia Avenue.

The results of a records search identified two eligible properties within one half mile of the project area. Based on the proposed design submitted by the DOE, these resources will not be affected by construction activities. Based on this information, the DOE is requesting my concurrence with their determination that no historic properties will be affected by this project.

The DOE has submitted maps delineating the projects location and Area of Potential Effect (APE), the results of a literature search and evidence of tribal notification. After reviewing this documentation, I have the following comments:

1) I concur that the Area of Potential Effects (APE) has been properly determined and documented pursuant to 36 CFR Parts 800.4 (a)(1) and 800.16(d).

2) I concur that a finding of No Historic Properties Affected is appropriate for this undertaking pursuant to 36 CFR Part 800.4 (d)(1) and that the documentation supporting this finding has been provided pursuant to 36 CFR Part 800.11(d).

3) Please be advised that under certain circumstances, such as an unanticipated discovery or a change in project description, you may have future responsibilities for this undertaking under 36 CFR Part 800.

Thank you for seeking my comments and considering historic properties as part of your project planning. If you have any questions or concerns, please contact Ed Carroll of my staff at (916) 445-7006 or at email at ecarroll@parks.ca.gov.

Sincerely,

Susan K Stratton for

Milford Wayne Donaldson, FAIA
State Historic Preservation Officer

APPENDIX C. COMPENSATORY MITIGATION AGREEMENT

This appendix contains an addendum to the Mitigated Negative Declaration 515 to the U.S. Fish and Wildlife Service and California Department of Fish and Game. The addendum provides for an off-site coastal sage scrub restoration program whereby Brea Power II, LLC (formerly Ridgewood Renewable Power, LLC) would pay the Puente Hills Landfill Native Habitat Preservation Authority (Habitat Authority) to restore coastal sage scrub within the Puente-Chino Hills preservation lands. This appendix also contains the compensatory mitigation agreement through which the Habitat Authority will restore up to 0.5 acre, and a minimum of 0.28 acre, of coastal sage scrub habitat within the Habitat Authority's preservation area to mitigate for the loss of coastal sage scrub habitat due to the project construction. The Habitat Authority will be responsible for the installation, maintenance and long-term monitoring of the coastal sage scrub restoration site.

FILED

FEB 11 2010

TOM DALY, CLERK-RECORDER

By _____ DEPUTY

Recorded in Official Records, Orange County
Tom Daly, County Recorder
NO FEE
201085000277 1:21 pm 02/11/10
175 OR06 Z03
0.00 50.00 0.00 0.00 0.00 0.00 0.00 0.00

POSTED

FEB 11 2010

TOM DALY, CLERK-RECORDER

By _____ DEPUTY

Exempt per Govt. Code Section 6103

NOTICE OF DETERMINATION

TO: **COUNTY CLERK COUNTY OF ORANGE**

Sent to OPR? Yes
If yes, SCH Number:
2007061096

FROM: OC Waste & Recycling, 300 N. Flower Street, Suite 400 Santa Ana, CA 92703

SUBJECT: Filing of Notice of Determination in Compliance with Section 21108 or 21152 of the Public Resources Code

Project Title: Modifications to Olinda Alpha Landfill Gas-to-Energy	
Type of Environmental Document (ND, Addendum, EIR, Etc.) Addendum to Negative Declaration	Previously Certified or adopted? Yes If yes, date: Yes, August 7, 2007
Project Proponent or Applicant: Project Proponent - OC Waste & Recycling, 300 N. Flower Street, Suite 400 Santa Ana, CA 92703; Project Applicant – Ridgewood Power Management, LLC, 947 Linwood Ave., Ridgewood NJ 07450	
Contact Person: John J. Arnau	Telephone: (714) 834-4107
Project Location: Olinda Alpha Landfill – 1942 N. Valencia Avenue, Brea, CA 92823	
Project Description: The proposed project will result in modifications to the existing gas to energy facility at the Olinda Alpha Landfill. The proposed modifications will provide an environmental benefit overall, by converting a greater volume of landfill gas to electricity and by reducing the amount of landfill gas flared.	

Notice is hereby given that the County of Orange as a ☒ Lead Agency ☐ Responsible Agency has made the following determination on the above-described project.

1. The project was approved by OC Waste & Recycling on February 10, 2010 (Date).
2. The project ☐ will have a significant effect on the environment.
   ☒ will not have a significant effect on the environment.
   ☐ An Environmental Impact Report was prepared for this project pursuant to the provisions of CEQA.
   ☒ A Negative Declaration was prepared for this project pursuant to the provisions of CEQA.
3. Mitigation Measures ☒ were incorporated into the project through conditions of approval and project design.
   ☐ were not required.
4. For this project a Statement of Overriding Considerations was ☐ adopted.
   ☒ not adopted.
5. Findings ☐ were ☒ were not made pursuant to CEQA Guidelines 15091 (Statement of Facts and Findings).
6. A copy of the Addendum and the record of the project approval is on file and may be examined at OC Waste & Recycling, 300 N. Flower Street, Suite 400, Santa Ana, CA 92703, phone: (714) 834-4107.

Signature: John J. Arnau

Date: February 11 2010 Title: Administrative Manager II

Fish and Game Fee Finding: No Impact ND $2,010.25 EIR $2,792.25 Previously Paid Receipt No. 323895

Exempt per Govt. Code Section 6103

#3238916

NOTICE OF DETERMINATION

TO: **COUNTY CLERK COUNTY OF ORANGE**

Sent to OPR? Yes
If yes, SCH Number: 2007061096

FROM: County of Orange Integrated Waste Management Dept., 320 N. Flower Street, Suite 400 Santa Ana, CA 92703

SUBJECT: Filing of Notice of Determination in Compliance with Section 21108 or 21152 of the Public Resources Code

Project Title: Modifications to Olinda Alpha Landfill Gas-to-Energy Facility	Document No. CEQA Log # 489
Type of Environmental Document (ND, Addendum, EIR, Etc.) Negative Declaration No. 489	Previously Certified or adopted? No
Project Proponent or Applicant: Lead Agency - County of Orange Integrated Waste Management Department (IWMD), 320 N. Flower Street, Suite 400 Santa Ana, CA 92703; Project Applicant – Ridgewood Power Management, LLC, 947 Linwood Avenue, Ridgewood, NJ 07450	
Contact Person: John J. Arnau	Telephone: (714) 834-4107
Project Location: Olinda Alpha Landfill – 1942 N. Valencia Avenue, Brea, CA 92823	
Project Description: The proposed project will result in modifications to the existing gas-to-energy facility at the Olinda Alpha Landfill. The proposed modifications will provide an environmental benefit overall, by converting a greater volume of landfill gas to electricity and by reducing the amount of landfill gas flared.	

FILED
AUG 07 2007
TOM DAILY, CLERK-RECORDER
By _____ DEPUTY

POSTED
AUG 07 2007
TOM DAILY, CLERK-RECORDER
By _____ DEPUTY

Notice is hereby given that the County of Orange as a ☒ Lead Agency ☐ Responsible Agency has made the following determination on the above project.

1. The project was approved by Integrated Waste Management Department on August 7, 2007 (Date)

2. The project ☐ will have a significant effect on the environment.
☒ will not have a significant effect on the environment.

☐ An Environmental Impact Report was prepared for this project pursuant to the provisions of CEQA.
☒ A Negative Declaration was prepared for this project pursuant to the provisions of CEQA.

3. Mitigation Measures ☐ were incorporated into the project through conditions of approval and project design.
☒ were not required.

4. For this project a Statement of Overriding Considerations was ☐ adopted.
☒ not adopted.

5. Findings ☐ were ☒ were not made pursuant to CEQA Guidelines 15091 (Statement of Facts and Findings).

6. A copy of the Negative Declaration and the record of the project approval is on file and may be examined at the Integrated Waste Department, Management Services Section, 320 N. Flower, Suite 400, Santa Ana, CA 92703-5000, (714) 834-4107.

Signature: John J. Arnau

Date: August 7, 2007

Title: Administrative Manager I

Fish and Game Fee Finding: De Minimus ND $1,800 EIR $2,500

G:\Management Services\Env Planning\Olinda Gas to Energy Modif\NOD.doc

Recorded in Official Records, Orange County
Tom Daily, Clerk-Recorder
20078500846 09:44am 08/07/07
1850.00
91 179 Z03 Z01

STATE OF CALIFORNIA - THE RESOURCES AGENCY
DEPARTMENT OF FISH AND GAME
ENVIRONMENTAL FILING FEE CASH RECEIPT

323896

Lead Agency: County of Orange Integrated Waste Management Dept Date: August 7, 2007

County/State Agency of Filing: OC Clerk - Recorder Document No.:

Project Title: Modifications to Olinda Alpha Landfill Gas to Energy Facility

Project Applicant Name: Ridgewood Power Management, LLC

Project Applicant Address: 947 Linwood Avenue

City: Ridgewood State: NJ Zip Code: 07450 Phone Number: (201) 934-4107

Project Applicant (check appropriate box):

☐ Local Public Agency ☐ School District ☐ Other Special District ☐ State Agency ☒ Private Entity

Check Applicable Fees:

☐	Environmental Impact Report	$2500.00	$
☒	Negative Declaration	$1800.00	$ 1800.00
☐	Application Fee Water Diversion (State Water Resources Control Board Only)	$850.00	$
☐	Projects Subject to Certified Regulatory Programs	$850.00	$
☒	County Administrative Fee	$50.00	$ 50.00
☐	Project that is exempt from fees		
	☐ Notice of Exemption		
	☐ DFG No Effect Determination (Form Attached)		

TOTAL RECEIVED $ 1850.00

Signature and title of person receiving payment: C. Turley

WHITE-PROJECT APPLICANT YELLOW-DFG/WSB PINK-LEAD AGENCY GOLDENROD-COUNTY CLERK DFG 753.5a (Rev. 1/07)

ORANGE COUNTY RECORDER
TOM DALY

Finalization 20070000211725
08/07/2007 09:44am
91 179

Item	Title	Count
1	Z03	1
Fish & Game: Neg Declaration		
1	Z01	1
EIR Administrative Fee		

Document ID	Amount
DOC# 2007B5000846	1850.00
Time Recorded 09:44 am	

Total	1850.00

Payment Type	Amount
Check tendered # 30744	1850.00
Amount Due	0.00

Thank You
Please Retain This Receipt
For Your Records

Message Confirmation Report

FEB-11-2010 01:53 PM THU

Fax Number : 17148344057
Name :

Name/Number : 919163233018
Page : 5
Start Time : FEB-11-2010 01:52PM THU
Elapsed Time : 00'46"
Mode : STD ECM
Results : [O.K]

OC Waste&Recycling

Michael B. Giancola, Director
300 N. Flower Street, Suite 400
Santa Ana, CA 92703
www.ocwastebiz.com
Telephone: (714) 834-4000
Fax: (714) 834-4183

TO: State Clearinghouse

FAX: (916) 323-3018

PAGES: 5

DATE: February 11, 2010

FROM: John Arnau, CEQA Coordinator
OC Waste & Recycling
Phone: (714) 834-4107
Email: john.arnau@ocwr.ocgov.com

SUBJECT: Notice of Determination

COMMENTS: Attached is the Notice of Determination for Addendum No. 1 to Mitigated Negative Declaration/Initial Study for the Modifications to Olinda Alpha Landfill Gas-to-Energy Facility, SCH #2007061096. Also attached is the proof of payment for California Department of Fish and Game fees.

ORANGE COUNTY OC Waste&Recycling
Our Community. Our Commitment.

Michael B. Giancola, Director
300 N. Flower Street, Suite 400
Santa Ana, CA 92703

www.oclandfills.com
Telephone: (714) 834-4000
Fax: (714) 834-4183

TO: File

FROM: Michael B. Giancola, Director
OC Waste & Recycling

SUBJECT: **Approval of Addendum No. 1 to Final MND 515 for Modifications to Olinda Alpha Landfill Gas-to-Energy Facility – Information Added to Biological Resources Section and Mitigation Monitoring and Reporting Program (OC Waste & Recycling Log #555)**

The Olinda Alpha Landfill is owned and operated by OC Waste & Recycling. The landfill is a Class III municipal solid waste landfill that is located in unincorporated Orange County, north of the City of Brea. On November 3, 2009, as Director of OC Waste & Recycling, I approved Final Mitigated Negative Declaration (MND) 515 for the modification to the Olinda Alpha Landfill gas-to-energy facility. The project applicant is Ridgewood Renewable Power. Final MND 515 analyzed the environmental impacts and provided mitigation measures for this project. A minor change to Final MND 515 is required, as described in Addendum No. 1 to Final MND 515 (attached).

II. Authority for Administrative Action

The Director of OC Waste & Recycling, pursuant to the authority granted in OCCO Sections 4-3-104, 4-3-126, and 4-3-137, takes the following administrative actions.

III. CEQA Approval

The CEQA Guidelines (Section 15164) provide for an Addendum as the vehicle to make minor changes when no new documentation is needed, as demonstrated by satisfying the following tests:

- The circumstances of the project are substantially the same, and Final MND 515 adequately addressed the effects of the proposed project.
- No substantial changes have been made in the project and there are no substantial changes in the circumstances under which the project is being undertaken.
- There is no new information of substantial importance to the project that is now known, which was not known or could not have been known when Final MND 515 was adopted.
- The minor and/or technical additions, clarifications and/or changes to Final MND 515, disclosed in Addendum No. 1 to Final MND 515, do not raise new significant issues which were not addressed by Final MND 515.
- None of the circumstances described in CEQA Guidelines Section 15162, which require the preparation of a new Subsequent EIR or Negative Declaration, apply to the project.

IV. Certification

I hereby certify that the subject project is approved.

Date: 2/18/14

Director, OC Waste & Recycling

Document: Addendum No. 1 to Final MND 515

Project Name: **Addendum No. 1 to Final Mitigated Negative Declaration 515 Modifications to Olinda Alpha Landfill Gas-to-Energy Facility – Information Added to Biological Resources Section and Mitigation Monitoring and Reporting Program**

OC Waste & Recycling Log #: 555

Purpose and Content of the Addendum

The Olinda Alpha Landfill is owned and operated by OC Waste & Recycling. The landfill is a Class III municipal solid waste landfill that is located in unincorporated Orange County, north of the City of Brea. Acting as the Lead Agency under CEQA, on November 3, 2009, the Director of OC Waste & Recycling approved Final Mitigated Negative Declaration (MND) 515 for the modifications to the Olinda Alpha Landfill gas-to-energy facility. Ridgewood Renewable Power is the project applicant. Final MND 515 analyzed the environmental impacts and provided mitigation measures for the proposed project. A minor change to Final MND 515 is required, as discussed below. Final MND 515 is therefore changed to the following, as shown in redline format below.

Final MND 515, Section 2.9(a) Biological Resources, Page 33, Mitigation Measure, delete existing measure and replace with the following measure, and

Final MND 515, Mitigation Monitoring and Reporting Program, Biological Resources, Mitigation Measure, delete existing measure and replace with the following measure:

As compensatory mitigation for the loss of approximately 0.28 acre of unoccupied, revegetated CSS within the gas-to-energy project site area at the Olinda Alpha Landfill, Ridgewood Renewable Power will enter into an agreement with the Puente Hills Landfill Native Habitat Preservation Authority (Habitat Authority), for the Habitat Authority to restore coastal sage scrub (CSS) for Ridgewood Renewable Power at a one-to-one mitigation to impact ratio. The Habitat Authority will install approximately 0.5 acre of CSS to ensure the successful restoration of 0.28 acre of CSS within the Puente-Chino Hills preservation area. This will constitute full compensatory mitigation for CSS habitat that will be lost associated with the gas-to-energy facility modifications project at the Olinda Alpha Landfill.

Standards for Preparing an Addendum

The CEQA Guidelines (Section 15164) provides for an Addendum as the vehicle to make minor changes when no new documentation is needed, as demonstrated by satisfying the following tests:

- The circumstances of the project are substantially the same, and Final MND 515 adequately addressed the effects of the proposed project.

- No substantial changes have been made in the project and there are no substantial changes in the circumstances under which the project is being undertaken.
- There is no new information of substantial importance to the project that is now known, which was not known or could not have been known when the prior Final EIR 588 was adopted.
- The minor and/or technical additions, clarifications and/or changes to Final MND 515, disclosed in Addendum No. 1 to Final MND 515 do not raise new significant issues which were not addressed by Final MND 515.
- None of the circumstances described in CEQA Guidelines Section 15162, which require the preparation of a new Subsequent EIR or Negative Declaration, apply to the project.

Basis for Addendum

The project makes only minor changes to the project as originally approved by the County of Orange on November 3, 2009. No new environmental conditions or circumstances have occurred that would make the analysis included within Final MND 515 invalid, and all mitigation measures remain enforceable.

AGREEMENT

This Agreement ("Agreement") is made and entered into this 4th day of February, 2010 (the "Effective Date") by and between Puente Hills Landfill Native Habitat Preservation Authority (the "Habitat Authority"), a joint powers authority established pursuant to Government Code Section 6500 et seq., and Brea Power II, LLC ("Brea Power").

RECITALS

A. Brea Power is developing a landfill gas-to-energy project ("Proposed Project") at the Olinda Alpha Landfill in Brea, California. The Proposed Project uses landfill gas as a fuel source to produce a net output of approximately 28.1 MW of electricity, which would otherwise be a wasted energy source. The power generated from the Proposed Project will be distributed to the local power grid via a new electric subtransmission line to be installed by SCE and sold to the City of Anaheim municipal utility.

B. CEQA compliance documents for the Proposed Project were prepared and submitted by OC Waste & Recycling ("OCW&R"). The CEQA process was completed via the preparation of a Mitigated Negative Declaration ("MND") which was submitted to both the U.S. Fish and Wildlife Service ("USFWS") and California Department of Fish and Game ("CDFG") by OCW&R. The biological analysis included in the MND concluded that the Proposed Project would result in impacts to 0.28 acre of revegetated unoccupied coastal sage scrub ("CSS").

C. The Habitat Authority is dedicated to the acquisition, restoration, and management of open space in the Puente Hills for preservation of the land in perpetuity, with the primary purpose to protect biological diversity. The Habitat Authority's jurisdiction extends within eastern Los Angeles County approximately from the intersection of the 605 and 60 Freeways in the west to the Harbor Boulevard in the east. The Habitat Authority was originally formed in 1994.

D. Brea Power desires to meet its compensatory mitigation obligations in connection with the Proposed Project by engaging the Habitat Authority to restore .5 acres of CSS within the Habitat Authority's preservation area.

E. USFWS and CDFG have agreed that the Brea Power mitigation obligations will be met through Brea Power's agreement with the Habitat Authority for the Habitat Authority to conduct mitigation, as further provided herein.

F. The Habitat Authority agrees to perform Brea Power's mitigation obligations, as further provided herein.

NOW, THEREFORE, in consideration of the mutual promises, covenants and conditions contained herein, the parties agree as follows:

1. Obligations of Parties; Cooperation.

a. Obligations of Brea Power . Within thirty (30) calendar days of the complete execution and delivery of this Agreement, and subject to the consents set forth in subparagraph b below, Brea Power shall pay $132,867 (inclusive of $27,417 of contingency funds as shown on the attached Exhibit A) to the Habitat Authority in a lump-sum payment for the purposes of the Habitat Authority accepting the habitat restoration under 1.b at the site described on the attached map marked Exhibit B. If the site depicted in Exhibit B, the preferred location, is not approved by the Department of Fish and Game or doesn't work for any other reason as the restoration site and an alternate site is approved by the Department of Fish and Game Brea Power agrees to pay the sum of $145,000 (inclusive of contingency funds as shown on the attached Exhibit C).

b. Obligations of Habitat Authority. Upon receipt of the above-described payment from Brea Power, approval by Habitat Authority of the scope and terms of the mitigation, receipt of letters from USFWS and CDFG consenting to the Habitat Authority conducting the mitigation, and final approval by the City of Whittier, if necessary, of the mitigation project and required conservation easement, the Habitat Authority shall restore up to.5 acres and a minimum of .28 acres of CSS within the Habitat Authority's preservation area as compensatory mitigation for the .28 acres of CSS that will be removed in preparation for the construction of the Proposed Project at the Olinda Alpha Landfill. With the payment of the lump-sum to the Habitat Authority, Brea Power's obligation to provide compensatory mitigation for impacts to .28 acres of CSS, associated with the Proposed Project , will be complete. The Habitat Authority will be responsible for the installation, maintenance and long-term monitoring of the CSS mitigation site or sites. The Habitat Authority will be responsible for ensuring that the mitigation site or sites meet all applicable performance requirements for the restored CSS. In addition, when the CSS within the mitigation site or sites is fully mature, and the mitigation site or sites are deemed complete, the Habitat Authority will be responsible for ensuring sign-off for the mitigation site or sites, with both USFWS and CDFG.

c.

d. Cooperation. The Habitat Authority and Brea Power each commit to cooperate in good faith with the other in implementing this Agreement; provided, each shall retain all of its respective rights and obligations.

2. Remedies. Should the Habitat Authority fail to implement the Agreement, as determined by the lead agency, CDFG, any remaining funds paid by Brea Power shall be returned to Brea Power within 90 days of receipt of a written request.

3. Term of Agreement. The term of this Agreement ("Term") shall commence as of the Effective Date and shall continue in full force and effect until the date that is ten years after the effective date.

4. Notices. All notices, requests and demands hereunder must be in writing to be effective. All notices required to be given hereunder or by operation of law in connection

with the performance or enforcement hereof shall be deemed given upon delivery if delivered personally (which includes notices delivered by messenger, telecopy/facsimile with hard copy to immediately follow or overnight courier) or, if delivered by mail, shall be deemed given after being deposited by certified mail in any duly authorized United States mail depository, postage prepaid. All such notices shall be addressed as follows, or to such other address or addresses as the parties may from time to time specify in writing:

If to Brea Power:
Stephen Galowitz
Managing Director
Ridgewood Renewable Power
Managing Member of Brea Power II, LLC
14 Philips Parkway
Montvale, NJ 07645

If to Habitat Authority:
Executive Director
Puente Hills Landfill Native Habitat Preservation Authority
7702 Washington Avenue, Suite C
Whittier, CA 90602
Telephone No.: (562) 945-9003
Fax No.: (562) 945-0303

5. Miscellaneous.

a. Successors. This Agreement and the rights and obligations of the parties hereunder shall inure to the benefit of, and be binding upon, the parties' respective successors.

b. Governing Law. This contract has been negotiated and executed in the State of California and shall be governed by and construed under the laws of the State of California, without reference to conflict of laws provisions. In the event of any legal action to enforce or interpret this Contract, the sole and exclusive venue shall be a court of competent jurisdiction located in Orange County, California, and the parties hereto and agree to and do hereby submit to the jurisdiction of such court, notwithstanding Code of Civil Procedure section 394. Furthermore, the parties specifically agree to waive any and all rights to request that an action be transferred for trial to another venue.

c. No Third-Party Rights. This Agreement is entered into for the sole benefit and protection of the Habitat Authority and Brea Power. Nothing in this Agreement shall be deemed or otherwise construed as granting any rights, benefits or interests to any other individual, entity or body.

d. Authority and Requisite Action. The individuals executing this Agreement (the "Signatories") covenant that they have the legal power, right and authority to enter into this Agreement and the instruments referenced herein and to bind their respective

principals/entities to the terms and conditions set forth herein. Furthermore, the Signatories covenant that all requisite action has been taken by their respective principals/entities in connection with the entering into of this Agreement and the instruments referenced herein, and the consummation of the transactions contemplated hereby.

e. Entire Agreement. This writing constitutes the entire agreement among the parties, and no modification of this Agreement shall be valid unless executed in writing by the parties hereto. Further, none of the parties to this Agreement shall be bound by any representations, warranties, promises, statements, or information unless expressly set forth herein.

f. No Waiver. The failure of any party to enforce against the other a provision of this Agreement shall not constitute a waiver of that party's right to enforce such a provision at a later time.

g. Captions. The captions of the various sections in this Agreement are for convenience and organization only, and are not intended to be any part of the body of this Agreement, nor are they intended to be referred to in construing the provisions of this Agreement.

h. Counterparts. This Agreement may be executed in one or more counterparts, and all the counterparts shall constitute but one and the same agreement, notwithstanding that all parties hereto are not signatories to the same or original counterpart.

i. Attorneys' Fees. In the event of litigation involving this Agreement, the prevailing party shall be entitled to its reasonable attorney's fees and costs including costs of appeal. .

j. Time. Time is of the essence with respect to this Agreement and the rights, obligations, conditions and entitlements set forth herein.

k. Independent Contractor. Nothing herein contained shall be deemed to create an agency, joint venture or partnership relationship between the parties hereto, including any subcontractor/consultant retained by the Habitat Authority to implement the program anticipated by this Agreement.

[remainder of this page intentionally left blank]

IN WITNESS WHEREOF, the parties have entered into this Agreement as of the Effective Date hereof.

"HABITAT AUTHORITY"

PUENTE HILLS LANDFILL NATIVE HABITAT PRESERVATION AUTHORITY,
a joint powers agency,

By: _____
Andrea Gullo
Executive Director

BREA POWER II, LLC

By: _____

Randall Holmes
Its: President and CEO

Puente Hills Landfill Native Habitat Preservation Authority

Exhibit A

Mitigation Fee In Lieu for Ridgewood Renewable Energy (Brea Power II)
0.5 acre CSS

		Cost per acre	**Totals**
Installation and maintenance 5 years		52,000	26,000
Seed collection		2,200	1,100
Plant propagation		3,100	1,550
Biological consulting services	N/A		45,000
Fence repair, signage, weed cntrl buffer zn, etc		2,000	1,000
Utilities: grw-n-kill, 2 yr irrigation		1,600	800
Utilities: hook up pump		0	0
Easement, legal description and mapping	N/A		15,000
Administrative Fee		5,000	5,000
Ongoing Personnel			
(Staff Ecologist day to day oversight, Ex Dir, legal, rangers)		0	0
Management in perpetuity endowment		0	0
Access Fee Applied to All Mitigation		20,000	10,000
Subtotal			105,450
*Contingency at 26%			27,417
Grand Total			**132,867**
acres	0.5		


Legend
OCWR Mitigation Area
Potential Ridgewood mitigation (sq. ft.)
Feet
0 50 100 200

Puente Hills Landfill Native Habitat Preservation Authority

Exhibit C

Mitigation Fee In Lieu for Ridgewood Renewable Energy (Brea Power II)
0.5 acre CSS

		Cost per acre	Totals
Installation and maintenance 5 years		52,000	**26,000** *
Seed collection		2,200	1,100
Plant propagation		3,100	1,550
Biological consulting services		N/A	**45,000** *
Fence repair, signage, weed cntrl buffer zn, etc		2,000	**1,000** *
Utilities: grw-n-kill, 2 yr irrigation		1,600	800
Utilities: hook up pump		0	**0** *
Easement, legal description and mapping		N/A	15,000
Administrative Fee		5,000	5,000
Ongoing Personnel			
(Staff Ecologist day to day oversight, Ex Dir, legal, rangers)		0	0
Management in perpetuity endowment		0	0
Access Fee Applied to All Mitigation		20,000	10,000
Alternate Site			**9,700**
Subtotal			115,150
*Contingency at 26%			**29,939**
Grand Total			**145,089**
	acres	0.5	

Adjustments expected in these areas.

APPENDIX D. CULTURAL RESOURCES LITERATURE SEARCH

This appendix contains a letter report with the results of a cultural resources literature search performed in July and August 2010 upon request from the Office of Historic Preservation.

Letter Report of the Cultural Resources Literature Search for the Environmental Assessment at Ridgewood Renewal Power EA, Brea, California

By Lynn Furnis,
Prinicipal Archaeologist

Prepared for:

AGEISS Inc.
1202 Bergen Parkway, Suite 310
Evergreen, CO 80430

Prepared by:

MACTEC Engineering & Consulting, Inc.
961 Matley Lane, Suite 110
Reno, Nevada 89502

September 10, 2010

DRAFT

Letter Report of the Cultural Resources Literature Search for the Environmental Assessment at Ridgewood Renewal Power EA, Brea, California

INTRODUCTION

In late June, 2010, Ageiss contacted MACTEC Engineering & Consulting, Inc. (MACTEC) regarding conducting a cultural resources records search for a proposed project in Brea, California. The search was to encompass all previously written cultural resources reports and previously recorded sites located within a one-mile radius of the Project Area. This has been done, and the results of the search are presented by means of this letter report. The report is part of an Environmental Assessment (EA) for the proposed project.

PROJECT DESCRIPTION

The proposed project involves a transmission line and a sewer line associated with the new gas-to-energy facility at the existing Olinda Alpha Landfill in Brea, in Orange County, California. For the transmission line, the proposed project includes a 1,300 ft long transmission line, built over the existing line on Valencia Avenue between Brea Substation and Lambert Road. Work within that area would involve replacing 10 existing 75-ft tall wood poles with approximately 11 80-ft tall wood poles in the same locations. On Valencia Avenue between Lambert Road and the Olinda-Alpha Landfill, a 2,300-ft long underground section of the transmission line would be constructed. Work would be done under Valencia Avenue and along the west curb face on the street side of Valencia Avenue. Disturbance would be two- to three-ft deep, except for disturbance for the vault which would be up to 12 ft deep. The vault location along the transmission line has not yet been determined.
The proposed project also includes sewer work, with installation of approximately 2,800 ft of new sewer line planned along the existing landfill access road, linking to a connection with the existing City of Brea sewer system at the north end of Valencia Avenue. Sewer disturbance would be two ft wide by two ft deep.

Potential Impacts

Since subsurface excavation for two ft to a maximum of 12 ft below surface is proposed for both the transmission and sewer lines, potential impacts to cultural resources primarily consist of disturbance to previously unknown prehistoric or historic-era archaeological resources, some of which could be significant resources. The replacement of the existing transmission line with new poles and lines in the same location as the old ones does not impose potential impacts in terms of visual, above-ground effects since the viewshed already included the existing transmission line. Where the new poles will be placed in new locations, rather than in existing pole locations, the potential remains for disturbance to subsurface cultural resources.

CULTURAL RESOURCES LITERATURE SEARCH

MACTEC initiated a cultural resources literature search through the South Central Coastal Information Center (SCCIC), in Fullerton, California. The search was conducted by the SCCIC staff for MACTEC and includes a search of the California Historical Resources Information System CHRIS database through the SCCIC office. In addition to the one-mile radius coverage for the transmission and sewer lines described above, an additional area around the Olinda Alpha Landfill was included in the search in order to seek out 12 known eligible cultural resources discovered during a previous literature search conducted by LSA in 2004 (McLean and McLean 2004). Due to the large number (n=35) of existing cultural resources reports in the search area, this took more time than anticipated to compile. In all, 30 cultural resources were identified. The literature search results are presented below, in tables 1 and 2.

Table 1. List of Previous Cultural Resources Reports for Projects Located within One-Mile of the Project Area and the Olinda Alpha Landfill, Organized in Order of Report Date				
Report Date	**Report Author**	**Report Title/ SCCIC Report No.**	**Preparing Consultant or Agency**	**Recorded Sites Within 1 Mile of Project Area**
1947	Walker, Edwin Francis	*Report of Preliminary Archaeological Survey of Carbon Canyon, Olinda Dam Site, Southern California* **Report No. OR-01494**	The Southwest Museum	---
1977	Desautels, Roger J.	*Archaeological Survey Report on the Proposed Carbon Canyon Wastewater Facility and Attendant Pipelines* **Report No. OR-00182**	Scientific Resource Surveys, Inc.	---
1977	Martz, Patricia	*Description and Evaluation of the Cultural Resources within Brea, Carbon Canyon, Fullerton and San Antonio Reservoirs, Santa Ana River Basin, Orange, Los Angeles, and San Bernardino Counties* **Report No. OR-00474**	University of California, Riverside	30-120001, 30-120002, 30-120003
1979	Mabry, Theo N	*Cultural Resources Records Search and Reconnaissance Olinda Disposal Station Off-road Vehicle Park, Orange County.* **Report No. OR-00476**	Archaeological Planning Collaborative.	---
1983	Cottrell, Marie G.	*Archaeological Resources Assessment Conducted for the Carbon Canyon Specific Plan Study, City of Brea, Orange County, California* **Report No. OR-00692**	Archaeological Resource Management Corp.	---
1984	McGuire, Pamela J. and Nancy Evans	*Inventory of Features Cultural Resources Chino Hills State Park* **Report No. OR-01159**	Cultural Heritage Planning.	---
1989	Whitney-Desautels, Nancy A.	*Final Report Cultural and Paleontological Resources Investigation of the Tonner Canyon Channel Facility* **Report No. OR-01837**	Scientific Resource Surveys, Inc.	---
1990	Brown, Joan C.	*Cultural Resources Reconnaissance of the Proposed North Orange County Landfill Alternative Technologies Study (noclats) Landfill Property, Approximately 2,700 Acres in Orange County, California*	RMW Paleo Associates, Inc.	30-001291; 30-001622, 30-001626,

Table 1. List of Previous Cultural Resources Reports for Projects Located within One-Mile of the Project Area and the Olinda Alpha Landfill, Organized in Order of Report Date				
Report Date	**Report Author**	**Report Title/ SCCIC Report No.**	**Preparing Consultant or Agency**	**Recorded Sites Within 1 Mile of Project Area**
		Report No. OR-01106		
1992	Becker, Kenneth M. and Juanita R. Shinn	*Report on the Investigations at an Early Twentieth Century Basque Sheepherder's House near the City of Brea, Orange County, California* **Report No. OR-01184**	RMW Paleo Associates, Inc.	30-100441 30-176487
1992	Bissell, Ronald M.	*Cultural Resources Reconnaissance of the Shell Oil Property and Test Excavation of a Rockshelter near the City of Yorba Linda, Orange County, California* **Report No. OR-01210**	RMW Paleo Associates, Inc.	---
1992	Mason, Roger D.	*Cultural Resources Survey Report for the Santa Fe Energy Company Olinda Property, Orange County, California* **Report No. OR-01199**	The Keith Companies Archaeological Division.	30-001321, 30-001322, 30-001323
1993	Elliot, John F. and James Brock	*A Cultural Resources Assessment for the Imperial Highway Project, Orange County, California* **Report No. OR-01291**	Archaeological Advisory Group	---
1994	White, Robert S. and Laura S. White	*An Archaeological Assessment of the Olinda/ Alpha Landfill Alternative Access Routes, Brea, County of Orange* **Report No. OR-01480**	Archaeological Associates, Ltd.	---
1995	Owen, Shelly M.	*Cultural Resources Survey and Impact Assessment for the Cajon/eptc Pipeline Project Located in the Portions of Los Angeles, San Bernardino, and Orange Counties, California* **Report No. LA-03179; OR-01427**	EIP Associates, Inc.	---
1997	Mason, Roger D.	*Cultural Resources Survey Report for the Stearns Property, City of Brea, Orange County* **Report No. OR-02884**	Chambers Group, Inc.	30-001483
1997	McLean, Deborah K.	*Cultural Resources Survey Report for Pacific Bell Mobile Services Telecommunications Facility, Cm 007-38, in the City of Irvine, Orange County, California* **Report No. OR-01664**	LSA Associates, Inc.	---
1998	Brechbiel, Brant A.	*Cultural Resources Records Search*	Chambers	---

Table 1. List of Previous Cultural Resources Reports for Projects Located within One-Mile of the Project Area and the Olinda Alpha Landfill, Organized in Order of Report Date				
Report Date	**Report Author**	**Report Title/ SCCIC Report No.**	**Preparing Consultant or Agency**	**Recorded Sites Within 1 Mile of Project Area**
		and Literature Review Report for a Pacific Bell Mobile Services Telecommunications Facility: Cm 147-11 in the City of Placentia, California **Report No. OR-01778**	Group, Inc.	
1998	Brechbiel, Brant A.	*Cultural Resources Records Search and Literature Review Report for a Pacific Bell Mobile Services Telecommunications Facility: Cm 313-05 in the City of Brea, California* **Report No. OR-01779**	Chambers Group, Inc.	---
1998	Brechbiel, Brant A.	*Cultural Resources Test Report CA-ORA-1322/h and CA-ORA-1323/h, Olinda Heights Project, Brea, Orange County, California* **Report No. OR-03227**	Chambers Group, Inc.	30-001322, 30-001323, 30-001494
1998	McKenna, Jeanette A.	*Artifact Analysis: Historic Artifacts Recovered from the Olinda Site, CA-ORA-1323h, Orange County, California* **Report No. OR-01875; OR-01876**	McKenna et al.	30-001323
1998	White, Robert S. and Laura S. White	*A Cultural Resources Assessment of the Lambert Road/Carbon Canyon Road Improvement Project, City of La Brea and Unincorporated County of Orange* **Report No. OR-01994**	Archaeological Associates, Ltd.	---
1999	Demcak, Carol R.	*Cultural Resources Assessments for Orange County Sanitation Districts* **Report No. OR-02256**	Archaeological Resource Management Corp.	---
1999	Mason, Roger D., Wayne H. Bonner, Steve L. Martin, Virginia Popper, and Robert O. Gibson	*Cultural Resources Test and Data Recovery Report CA-ORA-1321 Olinda Heights Project, Brea, Orange County, California* **Report No. OR-03223**	Chambers Group, Inc.	30-001321
2000	Ashkar, Shahira	*Cultural Resources Inventory of Four Proposed Sites for the Brea Sports Park, Orange County, California* **Report No. OR-03279**	Jones & Stokes	30-001665, 30-001666

Table 1. List of Previous Cultural Resources Reports for Projects Located within One-Mile of the Project Area and the Olinda Alpha Landfill, Organized in Order of Report Date

Report Date	Report Author	Report Title/ SCCIC Report No.	Preparing Consultant or Agency	Recorded Sites Within 1 Mile of Project Area
2000	Ashkar, Shahira	*California Register of Historical Resources Evaluation of Oil Well on the Stearns Property in the Sphere of Influence of the City of Brea, Orange County, California.* **Report No. OR-03711**	Jones & Stokes	---
2000	Minch, John	*Archaeological Mitigation Monitoring Report Vista Verde Tentative Tract 15672 Shell/toll, Yorba Linda, County of Orange, California* **Report No. OR-02525**	John Minch & Associates, Inc.	---
2000	Romani, Gwendolyn R.	*Archaeological Survey Report: Los Angeles-San Diego Fiber Optic Project: Mesa Substation to Chino Hills State Park Segment.* **Report No. LA-05476**	Compass Rose Archaeological, Inc.	---
2002	Dahdul, Mariam	*Reinstatement of Carbon Canyon Dam Sewer and Pump Station Abandonment Project* **Report No. OR-03730**	CRM Tech	30-120002
2002	Duke, Curt	*At&t Wireless Services Facility No. c872c, Los Angeles County, California* **Report No. OR-02524**	LSA Associates, Inc.	---
2004	McLean, Roderic and Deborah K. B. McLean	*Cultural Resource Assessment for the Olinda Alpha Landfill Expansion, Orange County, California* **Report No. OR-03220**	LSA Associates, Inc.	---
2004	Sikes, Nancy E.	*Cultural Resources Literature Review and Monitoring for Hartley Center-North, City of Brea, Orange County, California* **Report No. OR-03221**	SWCA Environmental Consultants, Inc.	---
2005	Girod, Catherine	*Archaeological Reconnaissance Report: Tonner Hills Exxonmobil Pipeline Relocation Project Located within the Lambert Road ROW, between Kraemer Boulevard and Valencia Avenue, City of Brea, Orange County, California* **Report No. OR-03213**	Compass Rose Archaeological, Inc.	30-001483
2006	O'Neil, Stephen	*Cultural Resources Reconnaissance*	SWCA	30-001483,

Table 1. List of Previous Cultural Resources Reports for Projects Located within One-Mile of the Project Area and the Olinda Alpha Landfill, Organized in Order of Report Date				
Report Date	**Report Author**	**Report Title/ SCCIC Report No.**	**Preparing Consultant or Agency**	**Recorded Sites Within 1 Mile of Project Area**
		Survey for the Birch Hills Golf Course/La Floresta Development Project, City of Brea, Orange County, California **Report No. OR-03823**	Environmental Consultants	30-001620, 30-001621, 30-001622, 30-001626
2009	Applied Earthworks/ Aspen Environmental Group	Confidential Cultural Resources Specialist Report for the Tehachapi Transmission Project **Report No. LA-10175**	Applied Earthworks and Aspen Environmental Group	---
2010	Backes, Clarus J. et al	*Archaeological Monitoring for The Tonner Hills Project Located in Brea, Orange County, California* **Report No. none**	SWCA Environmental Consultants, Inc.	30-001627, 30-001690; 30-001691; 30-001692; 30-001693; 30-001694; 30-001695; 30-001696; 30-001697; 30-100122; 30-100123; 30-177012

Of the 35 cultural resources projects conducted within the search area, 22 did not report any cultural resources within our one-mile search area. The remaining 13 reports included information on 38 cultural resources, though eight of these were the same sites reported on more than once. The total number of unique cultural resources reported within the 35 reports, then, is 30 resources, as reported by the SCCIC. The 30 cultural resources have been identified by means of archaeological and architectural site forms, and these are listed in Table 2.

Table 2. List of Previously Recorded Archaeological Sites and Isolated Artifacts Within One Mile of Project Area					
Site Number		**Age**	**Site Type**	**NRHP Eligibility**	**Report Date & SCCIC #**
NSM #	**Information Center Primary #**				
CA-ORA-1291/H	30-001291	Historic	Stone retaining wall and domestic debris-filled pit	Not Eligible	1990, OR-01106
CA-ORA-1321	30-001321	Prehistoric	Scatter of groundstone and flaked stone artifacts	Not Eligible	1992, OR-01199

Table 2. List of Previously Recorded Archaeological Sites and Isolated Artifacts Within One Mile of Project Area					
Site Number		**Age**	**Site Type**	**NRHP Eligibility**	**Report Date & SCCIC #**
NSM #	**Information Center Primary #**				
CA-ORA-1322	30-001322	Prehistoric and historic	Multi-component site: prehistoric shell, debitage, and groundstone scatter: Historic domestic and structural debris scatter	Not Eligible	1992, OR-01199
CA-ORA-1323/H	30-001323	Historic	Brick floor from a building	Not Eligible	1992, OR-01199
CA-ORA-1483/H	30-001483	Historic	Concrete box and structural debris scatter	Not Eligible	1997, OR-02884
CA-ORA-1494	30-001494	Historic	Large domestic debris cluster	Not Eligible	1998, OR-03227
CA-ORA-1620	30-001620	Historic	Landa House Site, domestic artifact scatter	Not Eligible	1990, OR-01106; 2006, OR-03823 UPDATE
CA-ORA-1621	30-001621	Historic	Building foundations; well or outhouse pit remains; domestic artifact scatter	Not Eligible	1990, OR-01106; 2006, OR-03823 UPDATE
CA-ORA-1622	30-001622	Historic	Small domestic debris-cluster	Not Eligible	1990, OR-01106; 2006, OR-03823 UPDATE
CA-ORA-1626	30-001626	Historic	Small domestic debris-cluster	Not Eligible	1990, OR-01106; 2006, OR-03823 UPDATE
CA-ORA-1627	30-001627	Prehistoric	Fire-affected stone concentrations	Not Eligible	2010, Backes, Clarus et al
	30-001665	Historic	Small domestic debris-cluster	Not Eligible	2000a, OR-03279
	30-001666	Historic	Generator building	Unevaluated	2000a, OR-03279
CA-ORA-1690	30-001690	Historic	Small domestic debris-cluster	Not Eligible	2010, Backes, Clarus et al
CA-ORA-1691	30-001691	Historic	Four household artifact concentrations	Not Eligible	2010, Backes, Clarus et al
CA-ORA-1692	30-001692	Historic	Bottle cluster	Not Eligible	2010, Backes, Clarus et al
CA-ORA-1693	30-001693	Historic	Small domestic debris-filled pit	Not Eligible	2010, Backes, Clarus et al
CA-ORA-1694	30-001694	Historic	Small domestic debris-cluster	Not Eligible	2010, Backes, Clarus et al

Table 2. List of Previously Recorded Archaeological Sites and Isolated Artifacts Within One Mile of Project Area					
Site Number		**Age**	**Site Type**	**NRHP Eligibility**	**Report Date & SCCIC #**
NSM #	**Information Center Primary #**				
CA-ORA-1695	30-001695	Historic	Small domestic debris-filled pit	Not Eligible	2010, Backes, Clarus et al
CA-ORA-1696	30-001696	Historic	Small domestic debris-cluster	Not Eligible	2010, Backes, Clarus et al
CA-ORA-1697	30-001697	Historic	Small domestic debris-cluster	Not Eligible	2010, Backes, Clarus et al
	30-100122	Historic	Isolated glass Vaseline jar	Not Eligible	2010, Backes, Clarus et al
	30-100123	Historic	Isolated glass Hemingray insulator	Not Eligible	2010, Backes, Clarus et al
	30-100441	Prehistoric	Isolated metate and hammerstone	Not Eligible	
	30-120001	Historic	Late 1800s to 1940s artifact cluster from Olinda oil town	Eligible	1977; OR-00474
	30-120002	Historic	Late 1800s to 1940s artifact cluster from Olinda oil town	Not Eligible	1977; OR-00474
	30-120003	Historic	Late 1800s to 1940s artifact cluster from Olinda oil town	Not Eligible	1977; OR-00474
	30-176487	Historic	Basque house and buildings complex	Not Eligible	1992; OR-01184
	30-177011	Historic	Wood frame ranch house and barn	Not Eligible	1990; OR-01106
	30-177012	Historic	1960s cluster of buildings within oil workers' recreation park	Eligible, as District	2010, Backes, Clarus et al

Note: Shaded row indicates the resource is within the Project Area

There are 24 archaeological sites identified, most of which are historic artifact (domestic) concentrations associated with the oil town of Olinda. One historic district (30-177012) is included, as well as three historic-age architectural remains. There are three isolated artifacts in Table 2, two of which are historic-age artifacts, and one of which includes two prehistoric implements. One historic-era site is located within the current Project Area for the proposed transmission line, along the west side of Valencia Avenue. It is site CA-ORA-1690 (Primary # 30-001690), consisting of a small domestic debris scatter dating to the early twentieth century. It is considered not eligible to the National Register of Historic Places (NRHP), according to the California State Office of Historic Preservation (SHPO). The site's eastern boundary is within 108 ft (33 meters) of the west flank of Valencia Avenue. Presumably, the site is outside the Area of Potential Effect (APE) proposed for the excavation of the underground transmission line trench, which is planned to be placed under Valencia Avenue and along the west curb face of the street (Janet Zanetell, personal communication, June 15, 2010). The proposed width of the excavation and actual APE is not known.

Few of the 30 cultural resources identified are considered eligible to the NRHP, based on the results of the SCCIC in its search for eligible properties through the California SHPO. One of the two identified eligible resources is 30-120001 – a late 1800s to 1940s artifact cluster associated with the Olinda oil town. It is located 2500 ft (0.47 mile) east of the proposed transmission line, along the north side of Carbon Canyon Road. The other is site 30-177012, known as "Wildcatter's Park", eligible as a historic district. It is this resource which includes numerous buildings and structures, all of which are clustered in a lush, hidden area within the Union Oil Company oilfield, situated 1500 ft (0.28 mile) west of the segment of Valencia Avenue where the underground transmission line is proposed to be placed, and approximately 500 ft north of Lambert Road. The complex was recorded in 2006 (Backes et al 2010). It includes one historic wellhead steel derrick, pumping, storage, transport, and maintenance buildings and structures, and a recreational park, originally constructed for employees of the Union Oil Company in approximately 1960.

CONCLUSIONS

Through the literature search, 30 previously recorded cultural resources were identified, as well as 35 previously written reports documenting archaeological work conducted within a one-mile radius of the proposed Project Area. One of the cultural resources (30-001690) is considered not eligible to the NRHP, but is located close to (108 ft) the proposed project. Two other resources are eligible to the NRHP but are well outside the Project Area. It is unlikely that any of the two eligible sites or one very close site (to the Project Area) will be directly or indirectly affected by the proposed transmission and sewer lines.

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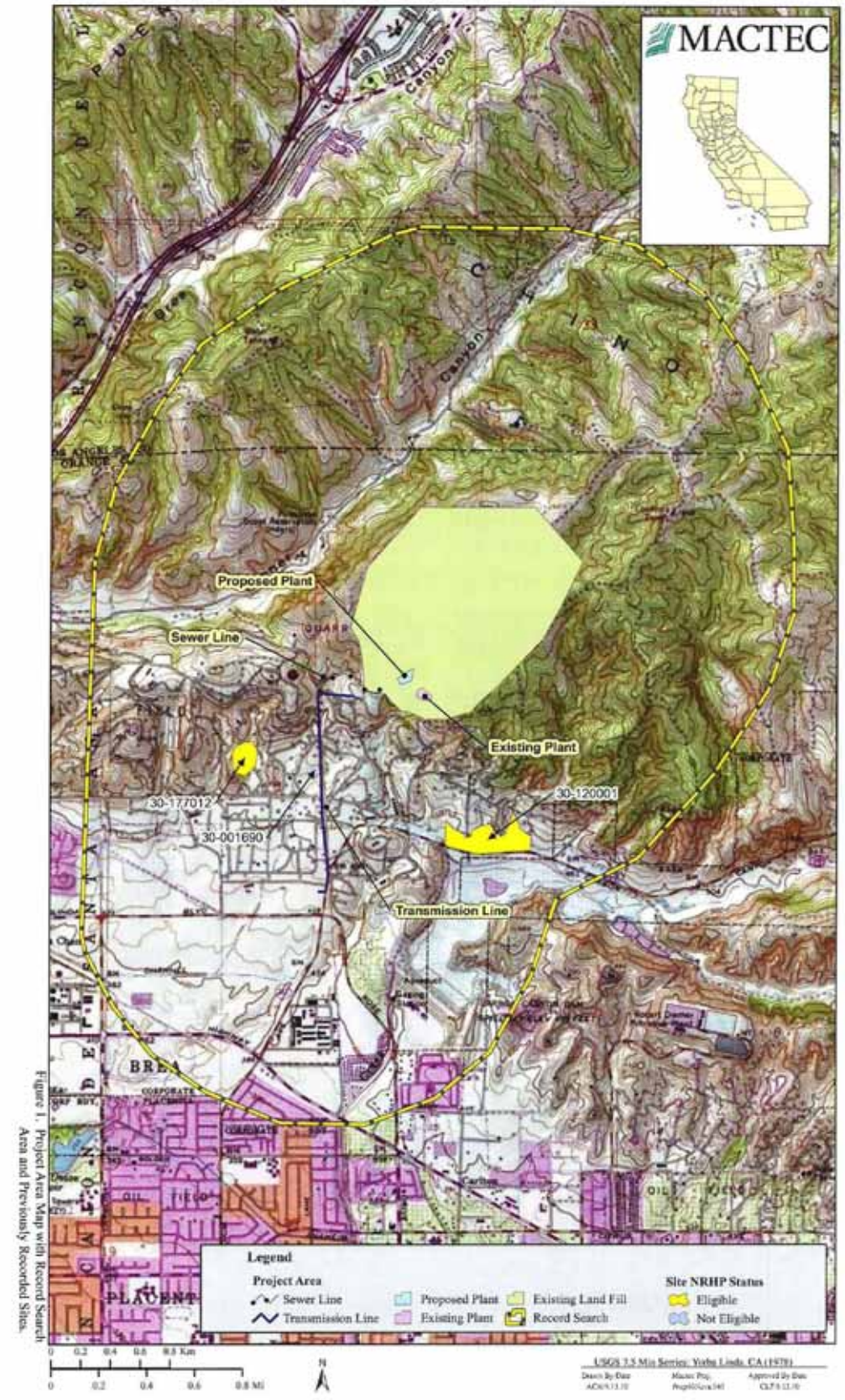

Figure 1. Project Area Map with Record Search Area and Previously Recorded Sites.