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November 30, 2011

DELIVERY PER PROOF OF SERVICE

Mr. Eric Solorio, Siting Project Manager
California Energy Commission
1516 Ninth Street
Sacramento, CA 95814

Re: Pio Pico Energy Center Project (11-AFC-01)
Biological Assessment

Dear Mr. Solorio:

On behalf of Applicant Pio Pico Energy Center, LLC, please find enclosed herewith one (1) paper copy of and one (1) disc containing the Biological Assessment completed for the Pio Pico Energy Center, submitted on November 29, 2011 to Gerardo Rios at United States Environmental Protection Agency, Region 9. Due to the voluminous nature of the document, all parties will be served with this correspondence and a disc containing the enclosed document.

Should you have any questions, please do not hesitate to contact this office.

Respectfully submitted,

Melissa A. Foster

MAF:jmw
Enclosure
cc: See Proof of Service

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URS

November 29, 2011

Mr. Gerardo Rios
Chief, Permits Office
USEPA Region IX
75 Hawthorne Street
San Francisco, CA 94105

SUBJECT: BIOLOGICAL ASSESSMENT, PIO PICO ENERGY CENTER, OTAY MESA, SAN DIEGO COUNTY, CALIFORNIA

Dear Mr. Rios:

Pio Pico Energy Center, LLC. (Applicant) is providing the enclosed Biological Assessment for the Pio Pico Energy Center Project (Project) located in Otay Mesa, San Diego County, California. The Project is a proposed simple-cycle power generation project that consists of three General Electric LMS100 natural gas-fired combustion turbine generators, emissions control systems, and other associated equipment. Based on field studies, consultation with experts, and consultation with resource specialists, URS biologists have determined that U.S. Fish and Wildlife Service (USFWS) designated critical habitat for Federally-listed Otay Tarplant, Quino Checkerspot Butterfly, and Coastal California Gnatcatcher occur approximately 1,500 feet (ft) to the east of the project footprint, and that nitrogen deposition resulting from the Project may result in a cumulative minor increase in nitrogen concentrations.

The cumulative increase in nitrogen concentrations may increase the propagation of non-native invasive plant species and the alteration of native vegetation communities. The cumulative incremental increase in nitrogen emissions from the Project may affect approximately 50 acres of native habitat suitable for Otay Tarplant, Quino Checkerspot Butterfly, and Coastal California Gnatcatcher, but is not likely to adversely affect these species or designated critical habitat for these species.

On behalf of the Applicant, we appreciate your timely review of the enclosed Biological Assessment. Further, it is our understanding that EPA will forward this document to USFWS and initiate formal Section 7 consultation. Please let me know when you have forwarded the document so that I may follow up directly with USFWS. If you have any questions regarding the Biological Assessment, please contact me at 714-648-2824 or lincoln.hulse@urs.com

Sincerely,

Lincoln Hulse

Natural Resources Division Manager
URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705
Phone 714-648-2824

CC:
Gary Chandler, Pio Pico Energy Center, LLC
David Jenkins, Pio Pico Energy Center, LLC
Maggie Fitzgerald, URS Corporation

Enclosure: Biological Assessment

Foster, Melissa A.

From: Hulse, Lincoln [lincoln.hulse@urs.com]
Sent: Wednesday, November 30, 2011 9:04 AM
To: Rios.Gerardo@epamail.epa.gov
Cc: Fitzgerald, Maggie; Dave Jenkins (Apex) (djenkins@apexpowergroup.com); Foster, Melissa A.; Steve Hill (SHill@sierraresearch.com); Gary Rubenstein
Subject: BIOLOGICAL ASSESSMENT, PIO PICO ENERGY CENTER, OTAY MESA, SAN DIEGO COUNTY, CALIFORNIA
Attachments: Pio Pico Draft Biological Assessment 29Nov2011_Final.pdf

Hi Gerardo:

Please find attached the Biological Assessment for the Pio Pico Energy Center Project for your review and comment.

I have also sent a hard copy to your office via FedEx for delivery this morning.

Please also confirm that upon EPA approval, you will forward this document to the USFWS and initiate a formal Section 7 consultation.

If you have any questions regarding the Biological Assessment, please contact me at 714-648-2824 or lincoln.hulse@urs.com

Thanks,

Lincoln Hulse
Natural Resources Division Manager
URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705
Phone 714-648-2824
Fax 714-433-7701
Mobile 714-227-1992

BIOLOGICAL ASSESSMENT

PIO PICO ENERGY CENTER

Prepared for

U.S. Environmental Protection Agency (EPA), Region 9
75 Hawthorne Street
San Francisco, CA 94105

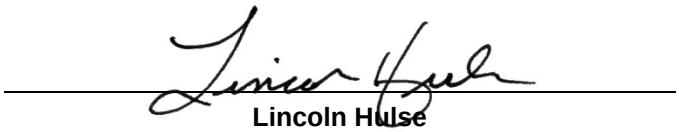
November 2011

Prepared by

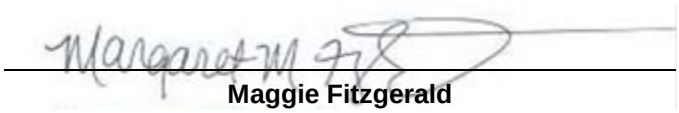
URS
2020 East First Street, Suite 400
Santa Ana, CA 92705

Applicant:
Pio Pico Energy Center, LLC

URS



Lincoln Hulse
URS Project Biologist



Maggie Fitzgerald
URS Program Manager

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LIST OF ACRONYMS

AFC	Application for Certification
amp	amperes
API	American Petroleum Institute
APN	assessor's parcel number
ASTM	American Society for Testing and Materials (former name)
BA	Biological Assessment
BMPs	Best Management Practices
BOP	balance-of-plant
CalOSHA	California Division of Occupational Safety and Health
CDFG	California Department of Fish & Game
CEC	California Energy Commission
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CO	Carbon Monoxide
CPUC	California Public Utilities Commission
CTG	combustion turbine generator
DCS	distributed control system
EIR	Environmental Impact Report
EPC	Engineering, Procurement, and Construction
ESA	Endangered Species Act
EWT	Enhanced Water Treatment
FWST	Final Wastewater Storage Tank
GE	General Electric
GPS	Global Positioning System
kcmil	kilo-circular mil
kg/ha/yr	kilograms per hectare per year
km	kilometers
kV	kilovolts
LHV	lower heating value
MMBtu/hr	Million British thermal units per hour
MSL	Mean Sea Level
MUP	Minor Use Permit
MW	megawatt
NH_3	ammonia
NO_x	Nitrogen Oxides
OMGP	Otay Mesa Generating Project
OSHA	Occupational Safety and Health Administration
OWD	Otay Water District
PDCS	partial dry-cooling system
PPEC	Pio Pico Energy Center
ppmvd	parts per million, volumetric dry

RFO	Request for Offers
RO	reverse osmosis
ROW	Right of Way
SCR	Selective Catalytic Reduction
SDG&E	San Diego Gas & Electric
SF_6	sulfur hexaflouride
SPA	Specific Plan Amendment
SWPPP	Storm Water Pollution Prevention Plan
TDS	total dissolved solids
TM	Tentative Map
UF	ultra filtration
URS	URS Corporation
U.S.	United States
USFWS	U.S. Fish and Wildlife Service
USGS	United States Geological Survey

1.0 EXECUTIVE SUMMARY

This Biological Assessment (BA) has been prepared for the Pio Pico Energy Center (PPEC, Applicant) project (project) pursuant to Section 7(a)(2) of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C.§§ 1531 *et seq.*). This BA identifies and assesses the potential direct, indirect, and cumulative effects of the project on any designated critical habitat for the Federally-threatened Otay Mesa Tarplant (*Dienandra conjugens*), the Federally-endangered Quino Checkerspot Butterfly (*Euphydryas editha quino*), and the Federally-threatened Coastal California Gnatcatcher (*Polioptila californica californica*).

The project is a proposed simple-cycle power generation project that consists of three General Electric (GE) LMS100 natural gas-fired combustion turbine generators (CTGs), emissions control systems, and other associated equipment. The total net generating capacity would be 300 megawatts (MW), with each CTG capable of generating 100MW. The project is located in an unincorporated area of San Diego County known as Otay Mesa. The project footprint, defined as the area of direct physical disturbance, consists of previously disturbed and developed land within the Otay Mesa Business Park, in San Diego County, and is adjacent to the existing Otay Mesa Generating Project (OMGP). For the purposes of this document, the project action area is defined as the project footprint including areas potentially subject to indirect and/or cumulative impacts from nitrogen deposition contributed by the project.

Based on field studies (e.g., habitat-level and focused-field surveys), consultation with experts, and consultation with resource specialists, URS biologists have determined that U.S. Fish and Wildlife Service (USFWS) designated critical habitat for Federally-listed Otay Tarplant, Quino Checkerspot Butterfly, and Coastal California Gnatcatcher occurs approximately 1,500 feet (ft) to the east of the project footprint and that only nitrogen deposition resulting from the proposed project may indirectly affect these ESA protected species. The San Diego Fairy Shrimp (*Branchinecta sandiegonensis*) is a Federally-listed endangered species that was initially considered to have the potential to occur within the project footprint; however, based on field studies (e.g., protocol and habitat-level surveys), and consultation with resource specialists (Porter 2011), this species is not expected to occur within the action area and the USFWS has determined that the project would not affect this species. Consequently, this species is not addressed further in this BA.

2.0 INTRODUCTION

Section 7 of the ESA directs all federal agencies to use their existing authorities to conserve threatened and endangered species and, in consultation with the Secretary (i.e., USFWS and/or National Marine Fisheries Service), ensure that any action authorized, funded, or carried out by such agency does not jeopardize listed species or destroy or adversely modify critical habitat. Section 7 applies to management of federal lands as well as other federal actions that may affect listed species such as federal approval of private activities through the issuance of federal permits, licenses, or other actions. This document identifies the potential environmental biological effects that may result from implementation of the construction and operation of the proposed project and a range of other reasonable alternatives.

An extensive literature search was performed, including resource management plans and other available documents containing pertinent information on the species discussed in this BA. For the purposes of this document, the action area is defined as the project footprint plus any areas indirectly or cumulatively impacted from nitrogen deposition contributed by the project. The action area will allow for the adequate assessment of the direct, indirect, and cumulative effects of the proposed action on Otay Tarplant, Quino Checkerspot Butterfly, and Coastal California Gnatcatcher and their respective USFWS-designated critical habitat. The project footprint is comprised of a 9.99 acre plant site, a 6.00 acre temporary laydown and parking area, adjacent water and stormwater connections, a natural gas pipeline, having a maximum length of approximately 10,300 feet, and an electrical transmission line, having a maximum length of approximately 2,650 feet.

2.1 PROJECT DESCRIPTION

Facility Location

The project is located in an unincorporated area of San Diego County known as Otay Mesa. It occurs within the San Bernardino Meridian, Section 30, Township 18 South, and Range 1 East of the Otay Mesa United States Geological Survey (USGS) 7.5-Minute Topographic Quadrangle Map (USGS 1975). It is comprised of a 9.99-acre parcel located in the southeast quadrant of the Alta Road and Calzada de la Fuente intersection in an industrial park entitled the Otay Mesa Business Park (Figure 1-2). The proposed project footprint comprises the entire Assessor's Parcel Number (APN) 648-040-45, and the laydown area is 6.00 acres of APN 648-040-46. A natural gas supply pipeline will be constructed along one of two routes to connect the project to an existing natural gas supply pipeline. A 230-kilovolts (kV) transmission line will be constructed on one of two routes to connect the project to an existing 230-kV switchyard.

The project is located approximately 2 miles east of Highway 125, 11.5 miles southeast of Imperial Beach, 17 miles southeast of the City of San Diego, and 1.5 miles north of the U.S.-Mexico border (Figures 1-1 and 1-2). Surrounding land uses include two correctional facilities (State and County) and the adjacent OMGP, a natural gas-fired electrical generating station.

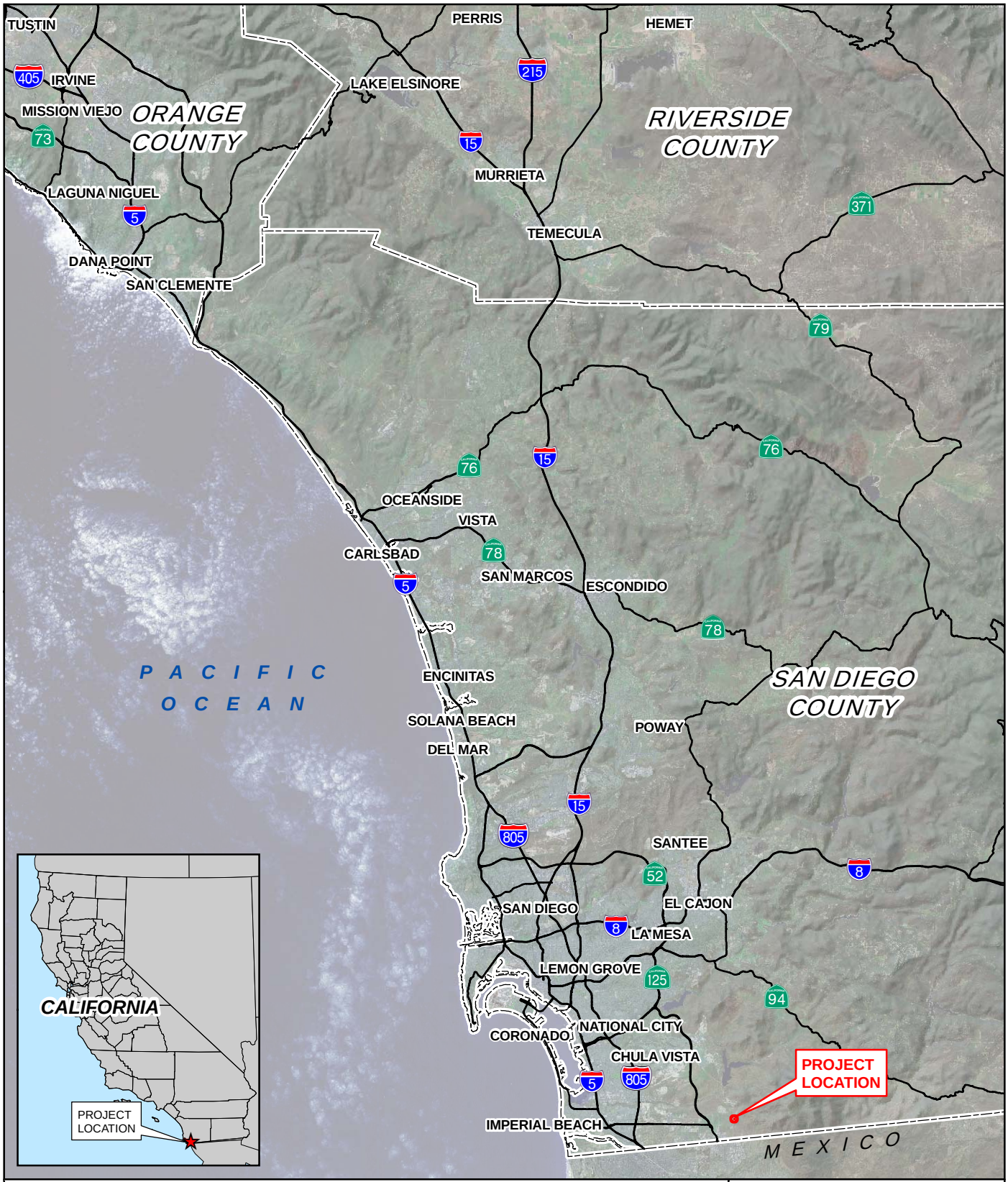

FIGURE 1-1
REGIONAL LOCATION

PIO PICO
ENERGY CENTER

PROJECT NO.: 29874827
DATE: NOVEMBER 2011

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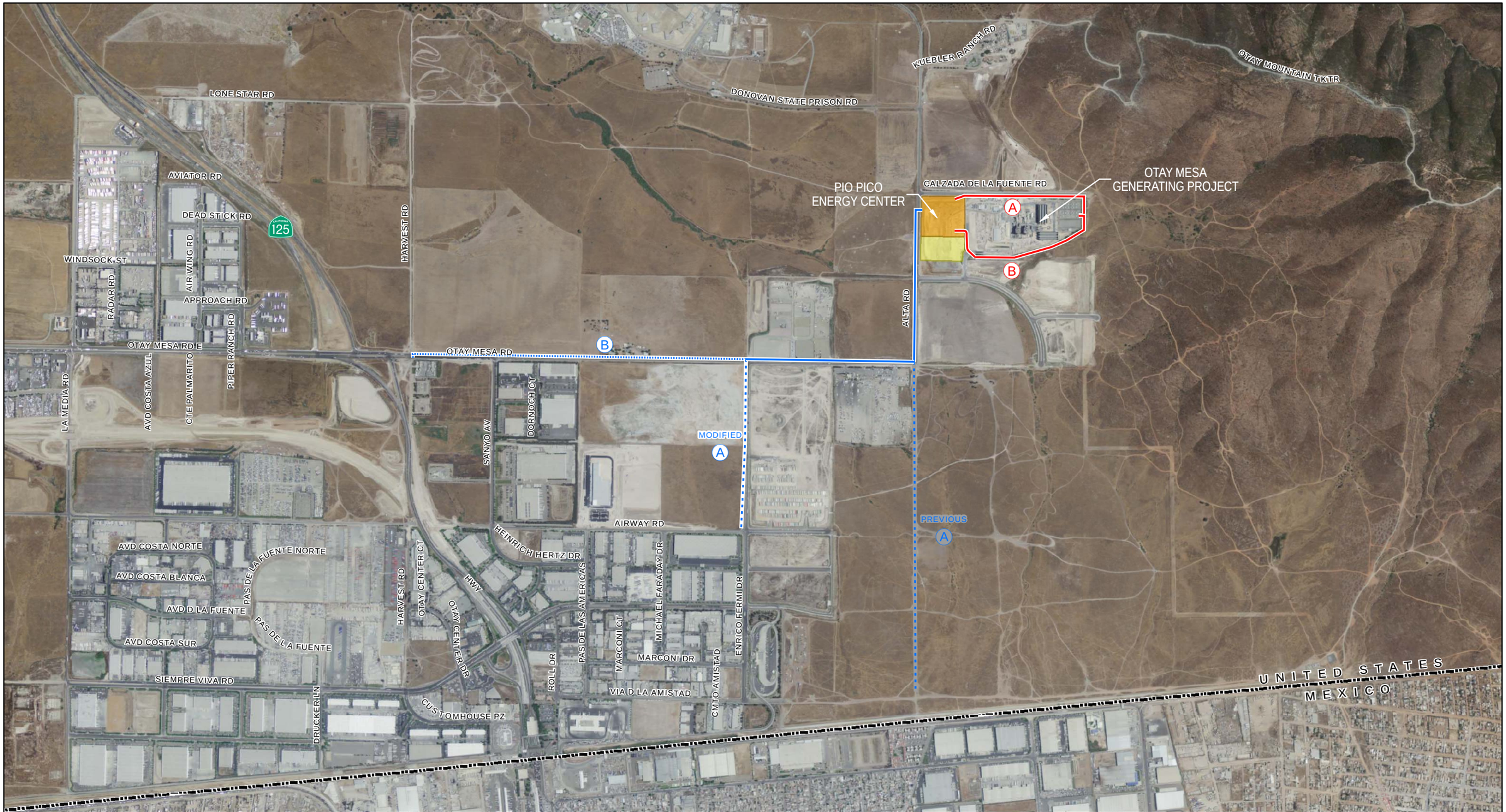


LEGEND

- Project Site
- Laydown Area
- United States/Mexico Border
- 230 kV Transmission Line (Route A and Route B)
- Shared Portion of Route B and Modified Route A Natural Gas Line
- Modified Route A Natural Gas Line
- Previous Route A Natural Gas Line
- Route B Natural Gas Line

N

0 750 1,500 Feet

FIGURE 1-2
SITE VICINITY

PIO PICO
ENERGY CENTER

PROJECT NO.: 29874827
DATE: NOVEMBER 2011

URS

Facility Description

PPEC is designed to directly satisfy the San Diego area's current and long-term requirements for peaking and load-shaping generation. As previously stated, the generating facility would consist of three GE LMS100 natural gas-fired CTGs. Each CTG is equipped with water injection for reducing nitrogen oxides (NO_x) emissions, a selective catalytic reduction (SCR) system with aqueous ammonia (NH_3) injection to further reduce NO_x, and an oxidation catalyst to reduce carbon monoxide (CO) and volatile organic compounds emissions. The total net generating capacity would be approximately 300MW.

Each CTG would generate approximately 100MW at summer-design ambient conditions. The project would have a maximum annual capacity factor of 46% (4,000 hours per year). Associated equipment would include emission control systems necessary to meet the proposed emission limits. Stack emission NO_x in normal operation would be controlled to 2.5 parts per million, volumetric dry (ppmvd) corrected to 15% oxygen through a combination of water injection in the combustors and operation of the SCR system. The oxidation catalyst would limit normal-operation CO stack emissions to 4 ppmvd corrected to 15% oxygen.

Fuel Gas Supply

The CTGs would fire natural gas exclusively. At full load, each CTG would require up to approximately 825 million British thermal units per hour (MMBtu/hr) low heating value (LHV) of natural gas, for a total plant demand of approximately 2,475 MMBtu/hr LHV. San Diego Gas and Electric (SDG&E) would build, own, and operate a gas pipeline from SDG&E's existing gas pipeline to the south and west. The Application for Certification (AFC) filed with the California Energy Commission (CEC) proposes two alternate routes for the gas supply line. The June 2011 AFC Refinement describes the modifications to one of the alternate routes (Modified Gas Line Route A). Both routes would connect to an existing SDG&E natural gas pipeline, but at different locations. The Modified Gas Line Route A extends approximately 2,375 feet (ft) south along Alta Road, then turns west on Otay Mesa Road for approximately 2,700 ft, and then turns south on Enrico Fermi Drive for approximately 2,700 ft to Airway Road, at which point it would connect to an existing SDG&E natural gas pipeline, for a total of approximately 7,775 ft (Figure 1-2).. Route B would extend approximately 2,375 ft south along Alta Road, turn west on Otay Mesa Road, and continue approximately 7,920 ft to Harvest Road, at which point it would connect to the existing SDG&E natural gas pipeline, for a total of approximately 10,300 ft (Figure 1-2). The pipeline will be constructed, owned, and operated by SDG&E.

Water Supply and Discharge

PPEC is designed and intended to use recycled water. Process water uses include plant service water, cooling system makeup, combustion turbine NO_x injection (after treatment), combustion turbine inlet air evaporative cooler makeup, and secondary fire protection water. The CTG injection water would be treated using an ultra-filtration (UF) system, a reverse osmosis (RO) system, and skid mounted ion exchange vessels. Process water would also serve as a secondary source of fire protection water.

A connection to the Otay Water District (OWD) potable water will supply facility drinking water, showers, sinks, toilets, eye wash stations, and safety showers in hazardous chemical areas. It would also serve as the facility's primary source of fire protection water. In the event that

recycled water is not available upon startup of the project, the project will rely on potable water supplied by OWD for all plant needs until such time as recycled water is available.

The project will make a short connection to the potable service system either at an existing 12-inch main along Calzada de la Fuente or at an existing 24-inch main along Alta Road. Upon the OWD's completion of the planned Otay Mesa area recycled water system, the project will make a connection to an existing 8-inch recycled water main along Calzada de la Fuente or a new recycled water main to be constructed in Alta Road.

As originally defined in the February 2011 AFC, the two process wastewater streams are the cooling system blowdown and the oil/water separator effluent. Both of these streams will be routed to the Process Wastewater Collection Tank. Rather than discharge the process wastewater from the Process Wastewater Collection Tank to the sewer as originally defined in the February 2011 AFC, the process wastewater will be conveyed to an added onsite high-pH RO system as described in the Enhanced Water Treatment (EWT) System October 2011 AFC Refinement. The RO system will recycle 80 to 90% of the treated process wastewater for reuse as makeup water. The EWT System reduces both the required supply volume and the final discharge volume. Due to high total dissolved solids (TDS), the final wastewater will not be discharged directly to the local sewer, but rather stored in a new 20,000 gallon wastewater treatment RO reject tank, to be called the Final Wastewater Storage Tank (FWST). Water from the FWST will then be pumped into a tanker truck and transported to the City of San Diego's industrial wastewater disposal facility referred to as Pump Station Number 1..

The sanitary system will consist of a sewer connection to the existing San Diego County sewer designed to handle the sanitary flow from the administration and control building and any restrooms located on the site. The sewer connection will be on-site near the administration and control building, connecting to the linear sewer line.

Storm water will be managed by employing Best Management Practices (BMPs) that prevent soil erosion and impacts on surrounding vegetation. Generally, gravel will be used in lieu of concrete and asphalt paving, where possible, to allow for on-site storm water infiltration. Remaining storm water will be routed through culverts and swales to an onsite storm water pond and then discharged to the Otay Mesa storm water drainage system located along Calzada de la Fuente.

Transmission Facilities

The PPEC facility will be interconnected to the SDG&E transmission grid through a newly constructed transmission line, which will connect to the existing Otay Mesa switchyard east of the facility via one of two proposed new transmission lines. The transmission line route will have a right-of-way (ROW) width of 80 ft. The 230-kV generation-tie line connecting the project to the existing Otay Mesa switchyard will be constructed using overhead and potentially some underground conductors, to be approved by SDG&E. The transmission line will have shield or ground wires in place. The transmission structures associated with the PPEC 230-kV interconnecting transmission line will include 230-kV pole structures designed to accommodate overhead shield/ground wire.

2.2 PURPOSE AND NEED

PPEC is designed to directly satisfy the San Diego area demand for peaking and load-shaping generation, both near and long term. The project will improve reliability within the SDG&E service territory, complement the increasing use of renewable energy sources through its 10-minute start and high-efficiency characteristics, and will help offset the loss of power generation that resulted from the retirement of the South Bay Power Plant. Upon approval by the California Public Utilities Commission (CPUC), SDG&E issued an all-source Request for Offers (RFO) in June 2009. The RFO sought demand responses and supply resources to: support reliability within the SDG&E service territory; to supply energy to bundled customers; and/or to meet other portfolio needs, including Resource Adequacy requirements. The RFO sought seven different products, and PPEC, LLC (the Applicant) responded to a request for new local generation projects coming online between 2010 and 2014.

2.3 HISTORY OF CONSULTATION TO DATE

This BA reflects the salient discussions, data, and species information exchanged between the USFWS, California Department of Fish and Game (CDFG), California Energy Commission (CEC), and the Applicant during the informal consultation period. The USFWS office in Carlsbad, California was contacted in March 2011 to assist PPEC, LLC in determining which, if any, threatened, endangered, and/or candidate species occur or could potentially occur in the project action area. On March 21, 2011, a site visit was conducted with USFWS, CDFG, and CEC to further discuss the project. On August 24, 2011, the CEC Staff held a workshop with representatives from the CEC, PPEC, agencies, and members of the public. The agency representatives were asked to review the project, draft project documents, and ancillary project features to help identify significant environmental issues, species of concern, and the potential scope and intensity of direct, indirect, and cumulative impacts to federal and state protected species.

In addition to field and office meetings, Applicant convened and facilitated telephone conferences with the USFWS and other resource agency staff to gather biological data relating to Federally-protected species. These telephone conversations yielded a better understanding of the CEC and resource agency perspectives on potential effects and identified pertinent technical documents that could be applied to the analysis of effects. Based on these interactions and communications, the initial species list and potential construction, operation, and maintenance-related impacts and proposed mitigation were augmented and refined. The results were then further supplemented with findings from the focused field surveys performed in 2010 (URS 2011). As a result of the informal consultation process, the PPEC's project-related proposed compensation measures were refined to include the following:

- A commitment by the Applicant to contribute funds in support of periodic weeding efforts at an approved research and habitat management area that would include periodic weeding of non-native plants. Applicant's contributions will help ensure that the project will have no significant adverse effects on biological resources.

3.0 PROPOSED ACTION

3.1 CONSTRUCTION SEQUENCE, SCHEDULE, AND EQUIPMENT

Construction for PPEC, from site preparation and grading to commercial operation, is expected to require 16 months and begin in 2013, following the CEC approval of the AFC. Startup, testing, and commercial operation would begin in 2014.

Project Schedule and Workforce

The major construction schedule milestones are listed in Table 3-1 below.

Table 3-1. Project Schedule

Activity	Date
Begin construction	February 2013
Startup and test	March 2014
Commercial operation	May 2014

The average monthly and peak monthly workforce are projected to be 148 and 284, respectively, construction craft people, supervisory, support, and construction management personnel on site during construction. The peak construction site workforce level is expected to last from Month 6 through Month 10 of the construction period following commencement of construction.

Execution Plans – Engineering and Construction Phases

This is an engineering, procurement, and construction (EPC) type project. As such, a single general contractor will be selected for the design, procurement of equipment and services, and construction of the facility. Subcontractors will be selected by the general contractor for specialty work portions as needed.

Engineering and Pre-Construction Mobilization

Engineering activities will begin with a Limited Notice to Proceed following the CEC Final Approval of the project and completion of obligatory discretionary permitting process; which is anticipated by Fall 2012. Staff from the engineering and construction groups will work together in the same office to prepare a safe, qualitative, cost effective, and sequentially effective plan for the project. The initial focus will include the purchase and delivery of engineered equipment and specialty, long-lead material. Facility design will include early milestones to complete the civil, structural, and mechanical equipment aspects of the project. As the ground breaking occurs and site grading commences, the design and procurement will continue to support the overall schedule and reliability of the final project. The Contractor is anticipated to mobilize within four months after the Limited Notice to Proceed, to begin construction in February 2013.

Construction Facilities

Mobile trailers or similar suitable facilities (e.g., modular offices) will be used as construction offices for owner, contractor, and subcontractor personnel.

Construction Parking

Construction parking areas will be within the laydown area, which is to the south of and contiguous with the project site. Access to the PPEC site would be via Calzada de la Fuente, west of the OMGP, as shown on Figure 1-2. These areas will provide adequate parking space for construction personnel and visitors during construction and will be maintained for stability and safety.

Laydown and Storage

Areas within the energy center boundary and the 6-acre laydown area immediately to the south of the proposed energy center locale will be used as off-load and staging areas (Figure 1-2).

Emergency Facilities

The general contractor will have a safety coordinator who will prepare a site-specific safety plan. Emergency services will be coordinated with the County of San Diego Fire Authority and local hospital in the City of Chula Vista. An urgent care facility will be contacted to set up non-emergency physician referrals. First aid kits will be provided in the construction offices and regularly maintained. At least one person trained in first aid will be part of the construction crew. In addition, all foremen and supervisors will be given first aid training.

Construction Utilities

During construction, temporary utilities will be provided for the construction offices, laydown area, and the project site. Temporary construction power will initially be provided by a connection to the local utility electrical distribution system. Eventually, temporary construction power for startup will be supplied by a backfeed connection to the adjacent Otay Mesa switchyard. Water trucks and potable water delivery will initially provide construction water. As the project matures and the water line connection is completed, the OWD potable water will then be used as the source of construction water. Portable toilets will be provided throughout the site during construction.

Site Services

The general contractor will provide the following site services:

- Environmental health and safety training;
- Site security;
- Site first aid;
- Construction testing (e.g., nondestructive examination, soil compaction);
- Site fire protection and extinguisher maintenance;
- Furnishing and servicing of sanitary facilities;
- Trash collection and disposal; and
- Disposal of hazardous materials and waste in accordance with local, state, and federal regulations.

Construction Equipment and Materials Delivery

Materials and supplies will be delivered to the project site by truck. Truck deliveries of construction materials and equipment will generally occur on weekdays between 6:00 a.m. and 6:00 p.m.; however, some larger, heavy-load deliveries may be delivered outside those hours. PPEC site access will be controlled for both personnel and delivery vehicles.

3.2 PROJECT FEATURES AND CONSTRUCTION ACTIVITIES

The following subsections describe the specific project features and construction-related activities.

Civil/Structural Features

Overview

The power block will consist of three separate simple-cycle combustion turbine power generation trains, each consisting of one GE LMS100 CTG, an air inlet system, an intercooler and variable bleed valve silencer, an emission control system, one stack, a power control module, an intercooler motor control center, a fuel gas filter/separator, and a generator step-up transformer.

In addition to the three combustion turbine power generation trains, there will be a cooling system (PDCS), an NH_3 storage tank, natural gas compressors, a water treatment facility, and two auxiliary transformers. Balance-of-plant (BOP) mechanical and electrical equipment will also be present.

The major equipment will be supported on reinforced concrete foundations at grade. Individual reinforced pads at grade will be used to support the BOP mechanical and electrical equipment. The gas compressors and water treatment equipment will be in an enclosed building(s).

Stacks

The emission control system will include an integral stack/silencer system. The stack will be a 100-foot tall self-supporting steel stack and will include the associated appurtenances, such as sampling ports, exterior ladders, side step platforms, and electrical grounding.

Buildings

The plant buildings will include a main plant building consisting of an administration and control area and warehouse area, a water treatment building, switchgear modules, and gas compressor modules. All of the buildings or modules will be supported on mat foundations or individual spread footings.

Transformer Foundations and Firewalls

There will be three 13.8-kV to 230-kV generator step-up oil-filled transformers and two 13.8-kV to 4.16-kV auxiliary oil-filled transformers. Each will be supported on reinforced concrete foundations at grade. Construction of a concrete retention basin around each transformer will provide oil containment in the event of a transformer failure. Concrete firewalls will be provided as required by the National Fire Protection Association 850, *Recommended Practice for Fire*

Protection for Electric Generating Plants and High Voltage Direct Current Converter Stations, for each step-up transformer and auxiliary transformer to limit a potential transformer fire to its concrete basin area.

Yard Tanks

The yard water storage tanks will include the raw water storage tank (500,000 gallons), the demineralized water storage tank (240,000 gallons), the process wastewater collection tank (95,000 gallons), and final wastewater storage tank (20,000 gallons).

The yard storage tanks will be vertical, cylindrical, field-erected, or shop-fabricated steel tanks. Each tank will be supported on a suitable foundation consisting of either a reinforced concrete ring wall with an interior bearing layer of compacted sand for the tank bottom or a reinforced concrete mat.

Roads

Access to the project site will be through controlled access gates. New roads, miscellaneous access drives, and permanent parking areas within the project site boundaries will be asphalt or aggregate surfaced roads. Surrounding the equipment will be a perimeter road for fire equipment and facility maintenance access. Primary access to the site will be from Calzada de la Fuente, and the construction and laydown area access will be from Alta Road or Paseo de la Fuente.

Site Security Fencing

A temporary chain-link security fence surrounding the project site perimeter will enclose the new facility during construction. Upon completion of the project, a permanent chain-link security fence will encompass the facility. In addition, the facility switchyard will be enclosed within a chain-link fence for the safety of the workforce. A controlled-access gate will be located at the main entrance from Calzada de la Fuente. During construction, a temporary chain-link security fence will be erected around the outside perimeter of the laydown site. This fence will be removed at the conclusion of the construction phase.

Site Grading and Drainage

The PPEC plant site will consist of paved roads, paved parking areas, and graveled areas. Storm water that does not infiltrate the project site will be routed through culverts and swales to an onsite detention pond and then discharged to the Otay Mesa storm water system along Calzada de la Fuente. Storm water entering the property from off site will be diverted away from the plant area using ditches. The grading and drainage facilities will be designed in accordance with the San Diego County Drainage Design Manual, San Diego County Hydrology Manual, and the County of San Diego Standard Urban Storm Water Mitigation, and BMPs will be implemented to reduce erosion and remove silt.

Prior to construction of PPEC, a Storm water Pollution Prevention Plan (SWPPP) will be prepared in accordance with the State Water Resources Control Board General Permit for Discharges of Storm Water Associated with Construction Activities. The SWPPP will be used at PPEC to control storm water during the facility's construction. PPEC will use BMPs, such as stabilized construction entrances, silt fencing, berms, hay bales, and detention basins to control runoff from all construction areas.

Site Flood Issues

According to the Federal Emergency Management Agency, the site is outside of the 100-year floodplain.

Earthwork

Excavation activities are expected to be minimal based on previous grading activities conducted by the landowner. Excavation work will consist of the removal, storage, and/or disposal of earth, sand, gravel, vegetation, organic matter, loose rock, boulders, and debris to the lines and grades necessary for construction. Materials suitable for backfill will be stockpiled at designated locations using proper erosion-protection methods.

The site is currently vacant industrial land located immediately west of the OMGP. Graded areas will be smooth, compacted, free from irregular surface changes, and sloped to drain. Cut-and-fill slopes for permanent embankments will be designed to withstand horizontal ground accelerations for Seismic Zone 4. For slopes requiring soil reinforcement to resist seismic loading, geogrid reinforcement will be used for fills and soil nailing for cuts. Slopes for embankments will be no steeper than 4:1 (horizontal:vertical). Construction will be at existing grade, which is fairly level; therefore, major cuts and fills are not anticipated.

Areas to be backfilled will be prepared by removing unsuitable material and rocks. The bottom of an excavation will be examined for loose or soft areas. Such areas will be excavated fully and backfilled with compacted fill.

Backfilling will be done in layers of uniform, specified thickness. Soil in each layer will be properly moistened to facilitate compaction to achieve the specified density. To verify compaction, representative field-density and moisture-content tests will be performed during compaction. Structural fill supporting foundations, roads, and parking areas will be compacted to at least 95% of the maximum dry density, as determined by American Society for Testing Materials (ASTM) D698. Embankments, dikes, bedding for buried piping, and backfill surrounding structures will be compacted to a minimum of 90% of the maximum dry density. Backfill placed in remote and/or unsurfaced areas will be compacted to at least 85% of the maximum dry density.

Where fills are to be placed on subgrades sloped at 6:1 (horizontal:vertical) or greater, keys into the existing subgrade may be provided to help withstand horizontal seismic ground accelerations.

Electrical Interconnection

The new generation will be interconnected to the SDG&E transmission grid through a newly constructed transmission line, which will connect to the existing Otay Mesa switchyard east of the facility. Two transmission route alternatives are presented in the AFC proceeding. The transmission line route will have a ROW width of 80 ft.

Route

Two possible routes are provided for a 230-kV transmission line that will connect the project into the existing 230-kV Otay Mesa switchyard. Route A would begin as an overhead power line leaving the project site and traverse along Calzada de la Fuente, extend approximately 1,700

ft east where it would then be routed underground for approximately 400 ft into the Otay Mesa switchyard (total length of Route A would be approximately 2,100 ft). Route B would begin on the project site as an underground line and reach an above-ground point within the southwest corner of the OMGP project site. From this pole, the above ground portion will remain within the OMGP and the Otay Mesa Switchyard, which is a single parcel - APN 648-040-48 (Figure 1-2).

Access to Structures

The entire interconnection, including construction and O&M phases of the project, will be located within the confines of the project site, OMGP site and the SDG&E Otay Mesa switchyard. The transmission line will have a 2,100 (Route A) to 2,650-ft span (Route B), depending on which alternative route is selected. No access to the electrical interconnection facilities will be required across any protected County easements. The public will not have access to any portions of the transmission lines or the switchyard.

Natural Gas Supply Pipeline

Natural gas will be delivered to the PPEC plant site from a connection to an SDG&E gas transmission line. A new metering and regulator station will be provided on the project site. The gas will be metered as it enters the plant. The gas will be compressed as required and directed to each CTG. Additional flow metering will be provided at each CTG.

Piping will be installed underground from the connection at the SDG&E gas transmission line to the point where it enters the project site. At the project site boundary, the piping will be routed to the aboveground gas metering and regulation station and either routed aboveground or below ground to the gas compressors. From the gas compressors, the pipeline will be routed underground to each CTG. The gas piping system will be constructed of carbon steel materials suitable for the design pressures and temperatures. Isolation and control valves will be provided as required by design, operational, and safety requirements.

Pipeline Routes

The PPEC project will require the construction of an off-site pipeline to supply natural gas to the project site. Two possible routes are proposed. The Modified Gas Line Route A extends approximately 2,375 feet south along Alta Road, then turns west on Otay Mesa Road for approximately 2,700 feet, and then turns south on Enrico Fermi Drive for approximately 2,700 feet to Airway Road, at which point it would connect to an existing SDG&E natural gas pipeline, for a total of approximately 7,775 ft (Figure 1-2). . Route B would extend approximately 2,375 ft south along Alta Road, turn west on Otay Mesa Road, and continue approximately 7,920 ft to Harvest Road, at which point it would connect to the existing SDG&E natural gas pipeline, for a total of approximately 10,300 ft (Figure 1-2).

Buried Pipe

SDG&E will construct all gas pipelines outside of the project site limits up to and including the new metering station. Construction will primarily use an open trench method and will comply with all requirements for the protection of biological resources.

The pipeline will be constructed of carbon steel in accordance with the American Petroleum Institute (API) specifications for gas pipelines or specifications of the ASTM. The pipe will

have corrosion-protection coating that is either factory- or field-applied. Joints will be welded, inspected using x-ray, and wrapped with a corrosion-protection coating.

Trenching

The trench width depends on the soil type encountered. The pipeline will be buried with a minimum 36-inch cover. The excavated soil will be piled on one side of the trench and later used for backfilling after the pipe is installed in the trench.

Stringing

The pipe will be laid out (stringing) on wooden skids along the side of the open trench during installation.

Installation

Installation consists of:

- Welding, coating, and bending of pipe;
- Laying sand or fine spoil on the trench floor; and
- Lowering the pipe string into the trench.

Welding will meet the applicable API and ASTM standards and will be performed by qualified welders. Welds will undergo radiographical inspection by an independent, qualified radiography contractor. All coatings will be checked for holidays (i.e. defects) and will be repaired before lowering the pipe into the trench.

Backfilling

Backfilling consists of returning excavated soil or slurry fill back into the trench around and on top of the pipe and up to the original grade of the surface. The backfill will be compacted to protect the stability of the pipe and minimize subsequent subsidence. Backfilling will return the trench to the original grade.

Plating

Plating consists of covering any open trenches, for safety purposes, with solid rectangular plates in areas of foot or vehicular traffic at the end of a workday. Plywood plates can be used in areas of foot traffic and steel plates on areas of vehicular traffic.

Pneumatic Testing

Pneumatic testing consists of plugging both open ends of a pipeline that is to be tested, filling the pipe with air up to a pressure specified by code requirements, and maintaining the pressure for a period of time.

Cleanup

Cleanup consists of restoring the ground surface by removing construction debris, grading the surface to its original state, and replanting vegetation.

Commissioning

Commissioning consists of cleaning and drying the interior of the pipeline, purging air from the pipeline, and filling the pipeline with natural gas.

Safety

Measures to ensure safety during construction and maintenance of the pipeline include complying with all applicable California Occupational Safety and Health Administration (Cal/OSHA), OSHA, and other regulations and standards as well as the contractor's specific safety plans for the project, which will address specific pipeline safety issues. This installation will also comply with all of the County of San Diego regulations, as required.

Water Supply

The OWD plans to establish additional recycled water supply in the Otay Mesa area. Recycled water will be the primary source of process water for the PPEC. Process water uses include plant service water, cooling system make-up, combustion turbine injection, combustion turbine evaporative cooler make-up, and secondary fire protection water. Upon the District's commissioning of the proposed Otay Mesa area recycled water system, the project will make a connection to a recycled water main either along Calzada de la Fuente or along Alta Road.

In the event that this system is not available, the project plans to rely on potable water supplied by OWD. The project would make short connections to the potable service system either at an existing 12-inch main along Calzada de la Fuente, or at an existing 24-inch main along Alta Road. Once the project's process water needs are supplied using recycled water, PPEC's permanent potable water needs would consist of drinking water, showers, sinks, toilets, eye wash stations, safety showers, and primary fire protection water.

Process water uses include plant service water, cooling system makeup, combustion turbine NOx injection (after demineralization), and combustion turbine inlet air evaporative cooler makeup. The CTG injection water will be demineralized using an UF system, a RO system, and skid-mounted ion exchange vessels. Process water will also serve as a secondary source of fire protection water.

The connection to OWD potable water will supply facility drinking water, showers, sinks, toilets, eye wash stations, and safety showers in hazardous chemical areas. It will also serve as the facility's primary source of fire protection water.

Sewer Line

Sanitary wastewater from the project site will be connected to an existing 12-inch sewer main along Calzada de la Fuente along the northern project site boundary.

Industrial wastewater will not be discharged directly to the local sewer, but rather stored in a new 20,000 gallon FWST. Water from the FWST will then be pumped into a tanker truck and transported to the City of San Diego's industrial wastewater disposal facility.

3.3 FACILITY OPERATIONS AND MAINTENANCE

This section discusses operation and maintenance procedures that will be followed by the PPEC staff to ensure safe, reliable, and environmentally acceptable operation of the power plant, transmission system, and pipelines.

Power Plant Facility

PPEC is designed as a simple-cycle, peaking, and intermediate load facility with three LMS100 CTGs. The project will be designed to emphasize efficiency and flexibility. Plant operations staff will include a total of four operators, four maintenance technicians, one environmental technician, one administrative staff member, one operations supervisor, and a plant manager. The plant will operate and be staffed 24 hours per day, 7 days per week. Plant operations will be directed from a control room. All system equipment will be controlled through a programmable logic controller or distributed control system (DCS) system, and the project equipment will be integrated into this proven control system.

As an intermediate load and peaking facility, each unit will be limited to operate no more than the equivalent of approximately 4,000 full-load hours per year. The plant will be dispatched by SDG&E in accordance with its economic dispatch procedures. The time required for startup is approximately 10 minutes. The SDG&E contract provides for up to 500 startups and shutdowns per unit per calendar year in addition to the 4,000 hours of normal operation.

The plant control system will consist of a state-of-the-art, integrated, microprocessor-based DCS. The control system will provide for startup, shutdown, and control of plant operation limits and will provide protection for the equipment.

The PPEC plant will be designed with automation where practical to reduce the required actions performed by operating personnel. Through subsystem automation and use of the DCS, the number of individual control switches and indicators that confront the operator will be greatly reduced.

The majority of the equipment required to support plant operation will be located in the control room and electrical equipment rooms. The control room will contain the DCS-based operator workstations and any auxiliary control panels. In addition, the control room will contain the alarm, utility, and log printers.

Local control panels or stations will be furnished where operator attention is required to set up a system for operation, or where the equipment requires intermittent attention during plant operation. Main control room indicators and control functions will be duplicated for those variables critical to plant availability.

Transmission System Operation and Maintenance

PPEC will be responsible for the maintenance, inspection, and normal operation of the new 230-kV interconnecting transmission line, which will be operated and maintained in accordance with industry general practice and SDG&E interconnection requirements.

Pipelines

SDG&E will own, operate, and maintain the natural gas pipeline from the existing fuel gas supply lines in accordance with applicable Federal Energy Regulatory Commission and U.S. Department of Transportation regulations. This piping system will be inspected periodically as part of SDG&E's pipeline maintenance program.

Sanitary wastewater will be discharged to the San Diego County's sewer system via a short connection to an existing sewer main in Calzada de la Fuente along the north project site boundary. As previously described industrial wastewater, will not be discharged directly to the local sewer, but rather stored in a new 20,000 gallon FWST. Water from the FWST will then be pumped into a tanker truck and transported to the City of San Diego's industrial wastewater disposal facility.

3.4 GENERAL AVOIDANCE AND MINIMIZATION MEASURES

The minimization and avoidance measures provided below are part of the overall commitment to avoid or minimize impacts on the local biological resources. project. Section 5.3 includes mitigation to specifically address potential effects on Federally-listed species and their critical habitat.

- The project owner will assign a Designated Biologist to the project during construction who shall:
  - Advise the project owner's Construction and Operation Managers on the implementation of the biological resources Conditions of Certification;
  - Be available to supervise, conduct, and coordinate mitigation, monitoring, and other biological resources compliance efforts, particularly in areas requiring avoidance or containing sensitive biological resources, such as special-status species or their habitat;
  - Clearly mark sensitive biological resource areas and inspect these areas at appropriate intervals for compliance with regulatory terms and conditions;
  - Inspect active construction areas where animals may have become trapped prior to construction commencing each day. At the end of the day, inspect for the installation of structures that prevent entrapment or allow escape during periods of construction inactivity. Periodically inspect areas with high vehicle activity (i.e., parking lots) for animals in harm's way;
  - Notify the project owner of any noncompliance with any biological resources Condition of Certification; and
  - Require a halt to all activities in any area when determined that there would be an unauthorized adverse impact to biological resources if the activities continued.
- The project owner will develop and implement a Worker Environmental Awareness Program (WEAP) by which each of its employees, as well as employees of contractors and subcontractors who work on the project site or any related facilities during site mobilization, ground disturbance, grading, construction, operation and closure, is

informed about sensitive biological resources associated with the project. The WEAP must:

- Be developed by or in consultation with the Designated Biologist and consist of an on-site or training center presentation through which supporting written material and electronic media (video or DVD) is made available to all participants.
- Discuss the locations and types of sensitive biological resources on the project site and adjacent areas
- Present the reasons for protecting these resources.
- Present the meaning of various temporary and permanent habitat protection measures.
- Identify whom to contact if there are further comments and questions about the material discussed in the program.
- Include a training acknowledgment form to be signed by each worker indicating that they received training and will abide by the guidelines.
- The specific program can be administered by a competent individual(s) acceptable to the Designated Biologist.

- The project owner shall implement the following measures to manage their construction site and related facilities in a manner to avoid or minimize impacts on the local biological resources.
  - Install temporary fencing and provide wildlife escape ramps for construction areas that contain steep-walled holes or trenches if outside of an approved, permanent exclusionary fence. The temporary fence shall be hardware cloth or similar materials that are approved by USFWS and CDFG. Before such holes or trenches are filled, they should be thoroughly inspected for trapped animals by the Designated Biologist or Biological Monitor.
  - Make certain all food-related trash is disposed of in closed containers and removed at least once a week from the project site.
  - Prohibit feeding of wildlife by staff and subcontractors.
  - Prohibit firearms or weapons from being brought to the project site, with the exception of security-related weapons.
  - Prohibit pets from being brought to the project site.
  - Report all inadvertent deaths of special-status species to the appropriate project representative.
  - Injured animals shall be reported to CDFG, and the project owner shall follow instructions that are provided by CDFG. The USFWS Office shall be notified in writing within 3 working days of the accidental death or injury to special-status species during project-related activities.
  - Contact USFWS and CDFG for specific notification procedures.

  - Minimize use of rodenticides and herbicides in the project area and prohibit the use of chemicals and pesticides known to cause harm to amphibians. If rodent control must be conducted, zinc phosphide or an equivalent product shall be used.

- Any time the project owner modifies or finalizes the project design, he shall incorporate all feasible measures to avoid or minimize impacts to the local biological resources, including:
  - Design, install, and maintain transmission line poles, access roads, pulling sites, and storage and parking areas to avoid identified sensitive resources.;
  - Design, install, and maintain transmission lines and all electrical components in accordance with the Avian Power Line Interaction Committee's (APLIC) Suggested Practices for Raptor Protection on Power Lines: The State of the Art in 2006 (APLIC 2006) to reduce the likelihood of electrocutions of large birds
  - Eliminate any California Exotic Pest Plants of Concern (Cal-IPC, 2007) List A species from landscaping plans.
  - Prescribe a road sealant that is nontoxic to wildlife and plants.
  - Design, install, and maintain facility lighting to prevent side casting of light towards wildlife habitat.
  - Use straw wattles or silt fences to prevent sediment from reaching irrigation and drainage canals.
  - Fence buffer zones during construction to minimize habitat disturbance.
  - Restore temporarily impacted areas to approximate original site conditions.
- In order to comply with the Migratory Bird Treaty Act and relevant sections of the CDFG Code (e.g., 3503, 3503.4, 3504, 3505, et seq.), any vegetation clearing would take place outside of the typical avian nesting season (i.e., February 1st – August 31st), to the maximum extent practical. If this is not possible, prior to ground-disturbing activities, construction, and so forth within the action area, a qualified biologist will conduct and submit a migratory nesting bird and raptor survey report. A qualified biologist is an individual with sufficient education and field experience in local California ecology and biology to adequately identify local plant and wildlife species. The survey shall occur not more than 72 hours prior to initiation of project activities and any occupied passerines and/or raptor nests occurring within or adjacent to the project footprint will be delineated. To the maximum extent practicable, a minimum buffer zone from occupied nests will be maintained during physical ground-disturbing activities. Once nesting has been determined to cease, the buffer may be removed.

4.0 ENVIRONMENTAL BASELINE

4.1 METHODS FOR EVALUATION

Biological field surveys were conducted by URS biologists in November 2010 according to the CEC regulations (CEC 2000). The "project study area" is the physical ground disturbance footprint (i.e., generating facility site, construction laydown area, transmission line pole locales, gas line, etc.) plus a 1,000-foot buffer where field surveys were conducted for botanical and wildlife resources (Figure 4-1). The action area includes the project footprint plus adjacent areas where indirect and/or cumulative impacts may occur.

Prior to beginning field surveys, URS consulted resource specialists and reviewed available information from resource management plans and relevant documents to determine the locations and types of biological resources with the potential to exist within the action area; resources were evaluated within one mile and ten miles of the project pursuant to CEC evaluation guidelines. The materials reviewed included, but were not limited to, the following:

- County of San Diego, Biological Mitigation Ordinance (1996).
- County of San Diego in Conjunction with the United States Fish and Wildlife Service (USFWS) and California Department of Fish & Game (CDFG). Multiple Species Conservation Program (1997).
- USFWS Critical Habitat Mapper and File Data (USFWS 2010b).
- USFWS Carlsbad Field Office Species List for San Diego County (USFWS 2010c).
- The California Natural Diversity Database (CDFG 2010).
- California Native Plant Society Electronic Inventory (CNPS 2010).
- Aerial Photographs (Digital Globe 2010).
- Fenn et al. 2003. *Ecological Effects of Nitrogen Deposition in the Western United States.* BioScience. Volume 54 Number 4. April 2003.
- U.S. Fish and Wildlife Service. 1997. *Coastal California Gnatcatcher* (Polioptila californica californica) *Presence/Absence Survey Guidelines*. U.S. Fish and Wildlife Service. Carlsbad, California. February 1997.
- U.S. Fish and Wildlife Service. 2002. *Quino Checkerspot Butterfly* (Euphydryas editha quino), *Survey Protocol Information*. U.S. Fish and Wildlife Service. Carlsbad, California. February 2002.
- U.S. Fish and Wildlife Service. 2003. *Recovery Plan for the Quino Checkerspot Butterfly* (Euphydryas editha quino). Portland, Oregon.
- U.S. Fish and Wildlife Service. 2004. *Recovery Plan for* Deinandra conjugens *(Otay Tarplant)*. Portland, Oregon.
- U.S. Fish and Wildlife Service. 2010. *Coastal California Gnatcatcher* (Polioptila californica californica) *Five Year Review: Summary and Evaluation*. U.S. Fish and Wildlife Service. Carlsbad, California. September 2010.

- Weiss. 2006. *Impacts of Nitrogen Deposition on California Ecosystems and Biodiversity*. Bren School of Environmental Science and Policy, University of Californa, Santa Barbara. Santa Barbara, California. Prepared for: Public Interest Energy Research Program, California Energy Commission.
- Porter, E. USFWS Biologist, Carlsbad, California, Personal communications with URS Corporation.
- Lucas, L. CDFG Biologist, San Diego, California, Personal communications with URS.

Pedestrian-based field surveys were performed to assess the biological resources present within the project study area. All botanical and wildlife species observed were documented, and all plant communities and habitats that could potentially support special-status species were described (URS 2011).

Nitrogen deposition modeling rates were calculated using atmospheric dispersion modeling system (AERMOD) (Sierra Research 2011).

4.2 GENERAL ENVIRONMENTAL SETTING

The project is located in an unincorporated area of San Diego County known as Otay Mesa. It consists of previously disturbed land and is comprised of a 9.99-acre parcel located in the southeast quadrant of the Alta Road and Calzada de la Fuente intersection the Otay Mesa Business Park. The elevation of the project is approximately 635 ft above mean sea level (MSL).The majority of the project footprint has been previously disturbed and the region includes developed areas containing commercial and public infrastructure. Existing site and surrounding land uses include two correctional facilities (State and County) and an existing natural gas-fired electrical generating station, the OMGP. The project footprint is relatively flat and buffered from an adjacent drainage and open space by roughly 200 ft. The industrial park developer graded the project footprint in the first quarter 2011 as described in the 2009-2010 County of San Diego Grading Permit 2700-1555. This soil removal and grading was already planned prior to the inception of this project and occurred regardless of this project.

4.3 VEGETATION COMMUNITIES

The dominant vegetation community present within the project study area is non-native grassland, which is a disturbance-related community and is comprised primarily of non-native grass and forb species. Riparian habitat composed primarily of native species occurs along a drainage located in the northeastern portion of the project study area. The remainder of the project study area is developed/disturbed lands and includes roadways, parking lots, vacant lots, and other private/public infrastructure with ornamental plantings. Species composition in developed areas varied and was dominated by non-native cultivar species. Vegetation communities present within the project study area are shown on Figure 4-1.

AVIATOR RD
DEAD STICK RD
AIR WING RD
HARVEST RD
PIPER RANCH RD
PIT
OTAY MESA RD E
AVD D LA FUENTE NORTE
AVD COSTA AZUL
OTAY MESA RD
DORNOCH CT
SANYO AV
MODIFIED
A
AIRWAY RD
ALTA RD
B
A
PREVIOUS
A
HARVEST RD
HWY
OTAY CENTER DR
AVD D LA FUENTE
AVD COSTA BRAVA
PAS DE LA FUENTE
DRUCKER LN
CUSTOMHOUSE PZ
ROLL DR
PAS DE LAS AMERICAS
SIEMPRE VIVA RD
MARCONI CT
MARCONI DR
MARCONI PL
VIA D LA AMISTAD
CMTO AMISTAD
ENRICO FERMI DR

Legend

- Biological Study Area
- Not Included in Final Design
- Project Site
- Laydown Area
- 230 kV Transmission Line (Route A and Route B)
- Natural Gas Line
- Modified Route A Natural Gas Line
- Previous Route A Natural Gas Line
- Route B Natural Gas Line
- Developed/Disturbed
- Riparian
- Non-Native Grassland

N

0 600 1,200 Feet

FIGURE 4-1
VEGETATION COMMUNITIES/ LAND COVER TYPES

PIO PICO
ENERGY CENTER

PROJECT NO.: 29874827
DATE: NOVEMBER 2011

URS

4.4 THREATENED AND ENDANGERED SPECIES DESCRIPTIONS

Biological field surveys determined that no special-status species were present within the project study area. However, historical occurrences, suitable habitat, and USFWS-designated critical habitat for the following Federally-threatened and endangered species is present within the project action area:

Otay Tarplant

Status and Distribution

Otay Tarplant is currently listed as a threatened species by the federal government (USFWS 2004). This species has a narrow geographic and elevational range, occurring between 80 to 1,000 ft above MSL in southwest San Diego County, California, and in northern Baja California, Mexico; its range in Mexico is unclear (USFWS 2004). Otay Tarplant is an annual herb in the Family Asteraceae (sunflower family) and occurs in clay soils in coastal scrub and valley and foothill grassland habitats (CNPS 2011). It is a glandular, aromatic plant that is 0.3-1.3 ft tall, with branching stems on its upper portion and deep green or grey-green leaves covered with hairs (Hickman 1993). The yellow flower heads are composed of 8 to 10 ray flowers and 13 to 21 disk flowers with hairless or sparingly downy corollas (fused petals). Its phyllaries are ridged and have short-stalked glands and large, stalkless, flat glands near the margins (USFWS 2004). The blooming period for Otay Tarplant is from May to June (CNPS 2011).

Threats/Reasons for Decline.

The primary threat to Otay Tarplant is the loss and degradation of occupied and suitable habitat, primarily due to urban development and agriculture, resulting in the fragmentation and isolation of remaining populations (USFWS 2004). Otay Tarplant has a self-incompatible breeding system, requiring pollination from an individual with a different genetic structure. This breeding type exacerbates the threat from fragmentation, as isolated populations and suitable pollinators may be unable to interact, ceasing gene flow and forming isolated islands (USFWS 2004).

In addition to loss and degradation of habitat and the resulting fragmentation and isolation of populations, Otay Tarplant is also threatened by illegal dumping, off-road vehicle use, Border Patrol activity, habitat disturbance, and competition with invasive, non-native species (CNPS 2011).

Quino Checkerspot Butterfly

Status and Distribution

Quino Checkerspot Butterfly is currently listed as an endangered species by the federal government (USFWS 2003). Populations have been located in San Diego and western Riverside counties and Baja California Norte, Mexico. The Quino Checkerspot Butterfly inhabits grassland and open areas in sage scrub, chaparral, and sparse native woodlands. It is in the Family Nymphalidae (brushfooted butterflies) and the Subfamily Melitaeinae (checkerspots and fritillaries). The Quino Checkerspot Butterfly is a subspecies of the Edith's Checkerspot Butterfly (*Euphydryas editha*). The dorsal (top) side of the wings has bands of black, cream, and red that create a checkered pattern. The ventral (bottom) side of the wings are checkered, with a red and cream pattern. Its abdomen has red stripes across the top and it has a wingspan of

approximately 1.5 inches, with forewings that are disproportionately short and rounded (USFWS 2003).

The Quino Checkerspot Butterfly has two distinctive life phases, the egg/larval/pupa stage and the adult stage. Each stage requires different habitat elements for growth and sustainment. During the early stages of its life cycle, the Quino Checkerspot Butterfly requires its larval host and food plants, which it feeds upon immediately after hatching. California Plantain (*Plantago erecta*) and Woolly Plantain (*Plantago patagonica*), which are small, often inconspicuous annual plants, are two of Quino Checkerspot Butterfly primary host plants (USFWS 2002). Female Quino Checkerspot Butterfly often select lone plants found on bare soil or in open areas for depositing eggs. Patches of host plants or nectar sources, ridgelines and hilltops, bare or sparsely vegetated areas between shrubs, and areas of cryptobiotic soil crusts have an especially high potential for Quino Checkerspot Butterfly use (USFWS 2002). Field observations indicate that females may deposit eggs on California Plantain, Woolly Plantain, Coulter's Snapdragon (*Antirrhinum coulterianum*), Rigid Bird's Beak (*Cordylanthus rigidus*), and/or Owl's Clover (*Castilleja exserta*). Nectar plants most likely to be visited by Quino Checkerspot Butterfly include, but are not limited to, members of the Asteraceae Family (e.g. Goldfields [*Lasthenia* spp.], Tidy Tips [*Layia* spp.], Rabbitbrush [*Ericameria* spp.]), Cryptantha [*Cryptantha* spp.], and Wild Onion [*Allium* spp.]) (USFWS 2002). In addition to food requirements, the Quino Checkerspot Butterfly utilizes locations containing diverse topography, such as areas with a mixture of north, south, east, and west facing slopes. Adult males exhibit a behavior called hilltopping, in which males form territories on hilltops and other prominent geographic features.

Threats/Reasons for Decline.

The decline of the Quino Checkerspot Butterfly has been attributed to habitat degradation and destruction. Urban and agricultural development, invasion of non-native species, habitat fragmentation and degradation, and other anthropogenic disturbances have resulted in substantial losses of habitat and declines in habitat suitability throughout the species historic range (USFWS 2003).

Coastal California Gnatcatcher

Status and Distribution

Coastal California Gnatcatcher is currently listed as an endangered species by the federal government (USFWS 2010a). This species is non-migratory and ranges from coastal southern California and northwestern Baja California, Mexico, from southern Ventura and San Bernardino counties, California, south to approximately El Rosario, Mexico (USFWS 2010a). Coastal California Gnatcatchers are closely associated with coastal scrub habitats, with their range following that of the vegetation community. The northern and eastern limits of the coastal scrub vegetation communities used by Coastal California Gnatcatcher are largely bound by mountainous areas, while the southern limit is defined by the transition to the Vizcaíno desert. This species may also occur in other nearby vegetation communities, especially during the non-breeding season, but it is closely tied to coastal scrub for reproduction (USFWS 2010a). Coastal California Gnatcatcher is in the Family Polioptilidae and is a small, slender, songbird. It is gray, with a long, black tail that has fine white edging. Breeding males have a glossy, black cap. The upperparts are darker gray than the underparts, with females having warmer, brownish tones on back, flanks, and belly. The species' kitten-like mewing calls best distinguish it from the similar

and largely allopatric (non-overlapping) Black-tailed Gnatcatcher (*Polioptila melanura*) (Atwood and Bontrager 2001). The breeding season of the Coastal California Gnatcatcher extends from about February 15 through August 30, with the peak of nesting activity occurring from mid-March through mid-May (USFWS 1997). Clutch size averages four eggs. The incubation and nestling periods encompass about 14 and 16 days, respectively. Juveniles are dependent upon, or remain closely associated with, their parents for up to several months following departure from the nest and dispersal from their natal (place of birth) territory (USFWS 2010a).

Threats/Reasons for Decline.

The primary threat to Coastal California Gnatcatcher is the loss of occupied and suitable habitat, primarily due to urban and agricultural development. Coastal scrub has been significantly reduced and was stated to be one of the most depleted habitat types in the U.S. by the USFWS (USFWS 2010a). Habitat type conversion, which is the modification of one habitat type to another through the effects of one or more stressors working individually or in combination, ultimately resulting in the destruction of the original habitat type, is another threat to Coastal California Gnatcatcher (USFWS 2010a). Grazing animals, such as cattle, sheep, and goats, eat and trample coastal scrub plants, destroying and modifying Coastal California Gnatcatcher habitat. Areas of native coastal sage scrub vegetation that have been disturbed by livestock appear to be more susceptible to invasion by non-native plants and, thus, habitat-type conversion. Although grazing has diminished in the U.S., it continues in Mexico. Wildland fires are another cause of habitat type conversion, as well as a temporary loss of habitat as fires in coastal scrub burn all or most of the above-ground vegetation. Often, when coastal scrub burns, it results in a conversion of the area to grassland habitat dominated by non-native weed species. Other threats to Coastal California Gnatcatcher include fragmentation of habitat and nest parasitism from Brown-headed Cowbirds (*Molothrus ater*) (USFWS 2010a).

5.0 EFFECTS DETERMINATION

This section includes the analysis of the direct, indirect, and cumulative effects of the proposed action on Otay Tarplant, Quino Checkerspot Butterfly, and Coastal California Gnatcatcher and their designated critical habitat. Direct effects are defined as actions that cause an immediate effect on the species or its habitat (e.g., temporary or permanent impacts to ESA species or critical habitat). Direct effects resulting from the proposed action include the effects of interrelated actions and interdependent actions. Indirect effects are caused by, or result from, the proposed action, are later in time, and are reasonably certain to occur. Indirect effects may occur outside of the area directly affected by the proposed project (i.e., the action area).

5.1 DIRECT AND INDIRECT IMPACTS

The construction, operation, and maintenance of the PPEC project will not result in any direct impacts to suitable habitat for the Otay Tarplant, Quino Checkerspot Butterfly, or the Coastal California Gnatcatcher and their respective designated critical habitat. The project's facility placement and design were intended to avoid populations of special-status species within the region. The majority of the project footprint has been previously disturbed and includes developed areas containing commercial and public infrastructure; it does not contain suitable habitat for Federally-listed species and no Federally-listed species occur within the study area (URS 2011).

The only potential impact to Otay Tarplant, Quino Checkerspot Butterfly, and Coastal California Gnatcatcher and their designated critical habitat that may result from the project is an indirect impact from nitrogen deposition. Based on a California-wide study of atmospheric nitrogen deposition, 5 kilograms/hectare/year (kg/ha/yr) has been used as a benchmark to assess potential effects of nitrogen deposition on plant communities; however, this benchmark does not imply that 5 kg/ha/yr is the critical load for negative impacts for all ecosystems since some ecosystems may be more sensitive whereas others may be less sensitive (Weiss 2006). Rather, this CEC-derived threshold serves as a benchmark for coarse screening of nitrogen deposition on plant communities and it is not a federal regulation related to the ESA.

The PPEC project's contribution of nitrogen deposition is estimated to be roughly 1.6 kg/ha/yr (Sierra Research 2011), which is considerably below the CEC-derived threshold of 5 kg/ha/yr. Accordingly, the project will result in a cumulative minor increase in nitrogen concentrations in the action area, particularly to the east (as shown on Figure 5-1). As such, nitrogen deposition from the project is not expected to result in direct or indirect adverse impacts to the surrounding area. The project will, however, contribute to the total cumulative regional nitrogen background; as such, nitrogen deposition resulting from the project is assessed in Section 5.2, Cumulative Impacts.

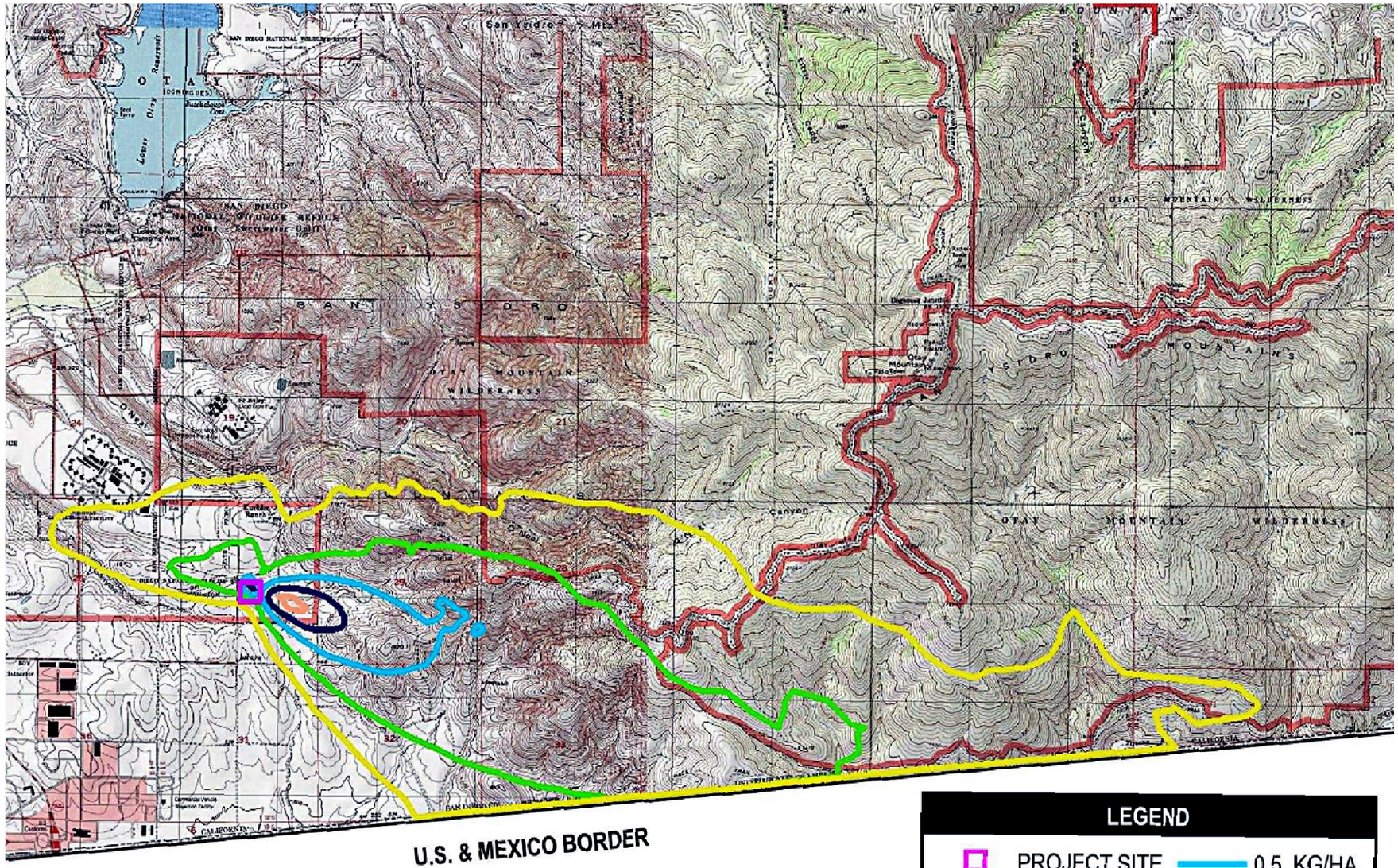


FIGURE 5-1
NITROGEN DEPOSITION
RESULTING FROM PROJECT
(UNITS OF KG/HA/YR)

PIO PICO
ENERGY CENTER

PROJECT NO.: 29874827
DATE: NOVEMBER 2011

URS

5.2 CUMULATIVE EFFECTS

Cumulative effects analyses are limited to future state and private actions that are reasonably certain to occur within the area prior to the completion of the federal project. For Section 7 consultations, the cumulative impacts should not include future federal actions (e.g., undertakings that require federal authorization or federal funding) since they are actions that themselves would be subject to the restraints of Section 7 at some later date. Indicators of "reasonably certain" projects must show more than the possibility that the non-federal project would occur. They must demonstrate with reasonable certainty that it would occur. Accordingly, only those state or private projects that satisfy all major land use requirements and that appear to be economically viable are considered. Cumulative effects involve only future non-federal actions: past and present impacts of non-federal actions are part of the environmental baseline. The following subsections identify and describe potential cumulative effects that could result from the project in combination with other reasonably foreseeable future non-federal actions or natural events in or near the PPEC project area.

5.2.1 Cumulative Projects

Projects that would potentially contribute to cumulative impacts are those located in the same general geographic area of influence of PPEC. For this cumulative assessment, the area of influence is defined as the area within a three-mile radius of PPEC. Projects or proposed projects of potential regional significance are also considered in the cumulative analysis. Table 5-1 presents a summary of potential projects considered in the cumulative impacts assessment, which are described in further detail below and are organized by applicable general use categories. The potential cumulative projects described below and listed in Table 5-1 are identified with a map identification number, which corresponds to the respective project's location on Figure 5-2.

The PPEC site is located approximately 1 mile from the City of San Diego, and is within the County of San Diego. Thus, both jurisdictions were contacted for information on future planned projects. Information was gathered on projects that: 1) have construction and operational timeframes potentially overlapping with PPEC; 2) have submitted a defined project application for required approvals or permits; or 3) have been previously approved and may be implemented in the near future. The cumulative assessment focuses on the potential overlap of construction and operation impacts among various projects meeting the criteria described above.

Table 5-1. Potential Projects Considered for Cumulative Effects

Map ID No.	Project Name	Project Description	Status/ Timing	Location
County of San Diego				
1	Vulcan Batch Plant	Proposed asphalt and ready-mix concrete plant	Pending	7522 Paseo De La Fuente
2	Otay Hills Construction Aggregate Extraction Operation	Proposed aggregate quarry	Pending	Approximately 0.5 miles east of the intersection of Otay Mesa Road and Alta Road

Map ID No.	Project Name	Project Description	Status/ Timing	Location
3	Corrections Corporation of America Correctional Facility	Detention facility	Approved	Northeast quadrant of Alta Road and Calzada de la Fuente (north of existing Otay Mesa Generating Project property and northeast of the proposed PPEC),
4	East Mesa Detention Center	Proposed wireless communication facility within Detention Center	Pending	446 Alta Road, County of San Diego
5	Paragon Management Project (Hawano Subdivision)	Proposed light industrial development	Pending	APN 648-070-17-00, east of Alta Road and immediately north of U.S.–Mexico border
6	Piper Otay Park	Industrial development	Approved	West of SR-125, north of Otay Mesa Road, and east of Piper Ranch Road
7	Otay Crossings Commerce Park	Proposed industrial development	Pending	Southeast quadrant of Otay Mesa Road and Alta Road
8	Otay Business Park	Proposed industrial development	Pending	Southeast corner of Alta Road and Airway Road
9	International Industrial Park	Proposed business park	Pending	Northeast of Alta Road and Lone Star Road
10	Sunroad/Otay Tech Center	Proposed business park	Pending	North of Otay Mesa Road between Harvest Road and Vann Centre Boulevard
11	California Crossings	Proposed commercial complex	Pending	Northwest corner of Otay Mesa Road and Harvest Road
12	East Otay Mesa Specific Plan	Specific Plan for industrial and business center	Approved	Southeast corner of Alta Road and future extension of Airway Road, immediately north of the U.S.-Mexico border
13	Sunroad Nursery	Proposed nursery	Pending	North of Otay Mesa Road between Harvest Road and Vann Centre Boulevard
20	Otay Mesa Generating Project	Existing Power Plant (in operation)	In operation	North of Otay Mesa Road and east of Alta Roadd, directly east of the PPEC site.
City of San Diego				
14	Sunroad/Interstate Industrial Center	Proposed warehouse development	Pending	East side of Piper Ranch Road and south of Otay Mesa Road
15	Sunroad Otay Park	Proposed industrial development	Pending	West side of Piper Ranch Road, between Otay Mesa Road and Airway Road
16	Siempre Viva Business Park	Proposed foreign trade zone	Pending	South of Siempre Viva Road and east of La Media Road
17	Esplande	Proposed 1,337 unit single-family residential development	Pending	Southeast corner of Otay Mesa Road and La Media Road

Map ID No.	Project Name	Project Description	Status/ Timing	Location
18	World Petro III	Proposed service station	Pending	1599 La Media Road (on northeast corner of Otay Mesa Road and La Media Road)
19	Cross Border Facility	Proposed international pedestrian bridge	Pending	South of Siempre Viva Road between Britannia Boulevard and La Media Road

APN = Assessor's Parcel Number

Aggregate Production

Vulcan Batch Plant (Map Identification Number: 1). The application is for a modification to an existing permit for industrial use as an asphalt and ready-mix concrete batch plant. The project site is located in East Otay Mesa in unincorporated San Diego County, approximately 0.25 miles southeast of the proposed project. The site is currently graded and vacant. The project would be implemented in two phases, with the hot mix asphalt plant in the first phase and the ready-mix concrete plant in the second phase. Site Plan 07-038 was approved by the Director on July 14, 2010. Where the approved Site Plan showed six, 60-ft high, 400-ton aggregate storage bins, the revised plan shows five aggregate piles separated by 20-ft high concrete divider walls, combined with six, 20-ft tall, 40-ton storage bins. In addition, the proposal would realign the on-site sewer line, rotate the hot mix asphalt plant about 10 degrees clockwise (to the southwest), and shift the concrete plant equipment to the northwest. The project would also reduce the height and length of a conveyor belt, identify the general location on the ground of active daily operations piles for aggregate materials and make refinements to the parking and the amount of paved area around the production facilities. The planned modification to the Vulcan Batch Plant is currently undergoing environmental review, and the timeframe of construction is not yet known. Since the timeframe of construction and operation are unknown, analysis of potential impacts cannot be concluded at this time.

Otay Hills Construction Aggregate Extraction Operation (Map Identification Number: 2). This project is a Minor Use Permit (MUP) for an aggregate quarry and associated activities on a 210-acre site at the eastern extension of Otay Mesa in the foothills of the San Ysidro Mountains. The project is expected to last 50 years with extraction ranging from 250,000 to 1,250,000 tons of material per year. The project also includes a Reclamation Plan to implement the activities necessary for the reclamation of land that have been disturbed through activities permitted by the MUP. An Environmental Impact Report (EIR) is currently being prepared for this project.

Correctional Facility

Corrections Corporation of America Correctional Facility (Map Identification Number: 3). The County of San Diego KivaNet database indicates that a modification of a MUP has been approved on November 19, 2010 for a correctional facility. The project is a modification to the previously approved (April 10, 2009) MUP for a secure detention facility, and involved moving the future detention facility 400 ft from the previously approved site. Other changes included relocating the parking lot, addition of building space, and minor changes to the building layouts. The new facility would be located within a Heavy Industrial land use designation, north of the

existing OMGP, and would be located approximately 600 ft northeast across Calzada de la Fuente from the PPEC.

The proposed facility is designed for the short-stay of inmates awaiting transfer to permanent facilities. Based on the Land Use analysis evaluated during the MUP's environmental review process, the facility has been determined to be compatible with surrounding industrial land uses, and land use designations assigned in the adopted East Otay Mesa Specific Plan. The Otay Mesa Specific Plan supersedes the County's Zoning Ordinance, and provides land use designations and development standards for the site and surrounding properties within the specific plan boundaries (County of San Diego 2010). If the project proceeds on schedule, the project would be expected to commence construction in 2012, and begin operation in 2014.

East Mesa Detention Center (Map Identification Number: 4). This project is a MUP for an unmanned wireless telecommunications facility within an existing county detention facility. The project site is located at 446 Alta Road in the Otay Community Plan area, in unincorporated San Diego County, approximately 0.4 miles north of the proposed PPEC project. The MUP consists of a proposed 45-ft high mono-pine with twelve panel antennas and one directional antenna. Supporting equipment would consist of indoor equipment cabinets inside a slump block wall equipment building. An emergency back-up generator would be located inside a slump block wall equipment shelter with a chain link lid attached to the equipment building. Two global positioning system (GPS) antennas would be mounted to the equipment building. The project would also include trenching from the proposed mono-pine to the equipment shelter for the coaxial cable and trenching from the proposed mono-pine 295 ft southwest to an existing utility pole. This project is not anticipated to have cumulative impacts when considered with PPEC, due to its size and type of use.

Industrial Uses

Paragon Management Project (Hawano Subdivision) (Map Identification Number: 5). This project is a Tentative Map (TM) for 23 light industrial lots and one detention basin lot on 80 acres in the East Otay Mesa Specific Plan Area, within unincorporated San Diego County. The site is subject to the General Plan Regional Category Current Urban Development Area and Land Use Designation 21 Specific Plan. The specific use of each proposed parcel will be established through a Site Plan submittal. The site is currently vacant and vegetated in non-native grassland. Access is proposed via Airway Road and Siempre Viva Road. The project includes roadway improvements to Airway Road along the project frontage, Enrico Fermi Place on-site, Siempre Viva Road on-site, and partial improvements off-site to the west, Via de la Amistad along the project frontage, Alta Road along the project frontage, and proposed on-site Enterprise Road and Hawano Drive. Phasing information was not provided. This project is currently preparing an EIR. Construction details for the project are not known yet, and the project would be subject to environmental review. Development may increase vehicle trips during construction. Construction impacts are relatively short-term and are not anticipated to have cumulative impacts. During operation, vehicle trips would be reduced. Neither construction nor operational related traffic would contribute to cumulative impacts.

Piper Otay Park (Map Identification Number: 6). Piper Otay Park (TM 5527/ER 93-19-006AA), is a proposed tentative subdivision map to subdivide an undeveloped 24.84-gross acre parcel into 13 industrial lots ranging from 1.03 acres to 2.61 acres. The project site (APN 646-

240-74-00) is located in the 600 block of Piper Ranch Road, immediately west of the right-of-way for the future SR-125, and north of Otay Mesa Road, within unincorporated San Diego County. City of San Diego jurisdiction lies immediately to the west and south of the site. The proposed uses include industrial commercial with limited and related support office uses. This project was approved by the County in February 2010.

Otay Crossings Commerce Park (Map Identification Number: 7). The Otay Crossings Commerce Park is a proposed TM and Specific Plan Amendment (SPA) to a 311-acre site. The SPA will re-align SR-11 and Circulation Element roads. The TM will create 31 industrial lots. A Final EIR is currently being prepared for this project. Specific construction details for the project are not known yet. Neither construction nor operational related traffic would contribute to cumulative impacts.

Sunroad/Interstate Industrial Center (Map Identification Number: 14). This project is a TM to develop 453,000 sq ft of warehousing on three lots. No environmental document is available to review at this time.

Sunroad Otay Park (Map Identification Number: 15). This project is a TM to develop 1,337,000 sq ft of small industrial park on 33 lots. No environmental document is available for review at this time.

Otay Mesa Generating Project (Map Identification Number: 20). Calpine Corporation owns and operates the 590MW natural gas-fired, combined cycle Otay Mesa Generation Project, which includes a new 230-kV switchyard on a 46-acre site. This project is located directly adjacent to PPEC to the east. The plant was certified by the CEC in April 2001, and commenced commercial operation in 2009.

Business Parks

Otay Business Park (Map Identification Number: 8). Otay Business Park is a proposed TM to subdivide a 161.6-gross acre parcel into 59 industrial lots, 3 drainage/detention basin lots, and 25.35 acres of on-site roads. No specific uses have been identified. The project site (APN 648-070-21) is located immediately north of the U.S.-Mexico border, approximately 0.5 mile east of Enrico Fermi Drive, in East Otay Mesa, within unincorporated San Diego County. Zoning is established by the East Otay Mesa Specific Plan, Subarea 2, with a designation of Mixed Industrial. The site is undeveloped. A Final EIR is currently being prepared for this project. The project is proposing a total of four development phases to commence in 2011, with full project build-out anticipated by 2014.

International Industrial Park (Map Identification Number: 9). The project is a TM to subdivide approximately 170 acres of vacant land into 10 parcels for technology/business park use. Approximately 127 acres of the project site will be developed, 33 acres will be placed in open space, and 10 acres will be used for internal circulation streets. The project site is located in Subarea 1 in the East Otay Mesa Specific Plan Area, part of the Otay Subregional Planning Area, within unincorporated San Diego County.

Sunroad/Otay Tech Center (10). This project is a TM 5538 to subdivide 54 lots on 253.1 acres ranging in size from 1.8 to 5.3 acres. The project site is located within the East Otay Mesa

Specific Plan. The site is located at the northeast corner of Otay Mesa Road and Harvest Road, in San Diego County.

Siempre Viva Business Park (Map Identification Number: 16). No additional information was available for this project at this time. No environmental document is available for review at this time.

Commercial Uses

California Crossings (Map Identification Number: 11). The project is a three parcel commercial complex located in the East Otay Mesa Specific Plan Area, part of the Otay Subregional Planning Area, within unincorporated San Diego County. An EIR is currently being prepared for this project.

Residential

Esplande (Map Identification Number: 17). This project is proposing to develop 1,337 single family residential units. No additional information was available for this project at this time. An application has been filed with the City of San Diego. No environmental document is available to review at this time.

Specific Plan

East Otay Mesa Specific Plan (Map Identification Number: 12). The East Otay Mesa Specific Plan that plans for the long-term development of approximately 3,300 acres for industrial and business center in San Diego County. This planning document establishes a framework for future development, including policies, guidelines, implementation programs, and phasing for infrastructure and financing. The Specific Plan was originally approved by the County in 1994. Since then two amendments have been made to the Specific Plan. In the 2002 amendment, the Specific Plan was divided into two Subareas and property located outside Subarea 1 was renamed Subarea 2. The plan was divided due to the time required to evaluate environmental constraints and the uncertainty of the alignment of SR-11 and the proposed third Port-of-Entry in Subarea 2. The 2010 amendment re-combined Subarea 1 and 2 into a single Specific Plan. No major revisions were made to the land use or circulation plans with the 2010 amendment, except for a boundary change that resulted from a voter initiative. Its primary purpose was to simplify and clarify permitting and development requirements during a period when numerous landowners were processing permits.

Although the East Otay Mesa Specific Plan has been approved, future developments may overlap with PPEC. At this early stage in the development of the specific plan area, it is not possible to predict the time when, or specific location where, these impacts may occur. Several projects described above, including the Otay Business Park, Piper Otay Park, Otay Crossings Commerce Park, California Crossings, and Sunroad/Otay Tech Center are proposed as part of the Specific Plan. Buildout of the East Otay Mesa Specific Mesa Specific Plan is anticipated to have significant cumulative impacts, even without the proposed project.

Other

Sunroad Nursery (Map Identification Number: 13). The project is a MUP for a Wholesale Nursery, on about 68 acres in the East Otay Mesa Specific Plan. The project consists of

wholesale production of field and container grown ornamental horticulture crops. The project site is located east of SR-125, at the southwest corner of Lone Star Road and Harvest Road in the East Otay Mesa Subregional Plan, within unincorporated San Diego County.

World Petrol III (Map Identification Number: 18). This project is a proposed service station, with 22 fueling stations. The proposed service station will also include a 3,632 square feet mini mart, a car wash, a 2,042-sq ft restaurant and a 290-sq ft office. No environmental document is available for review at this time.

Cross Border Facility (Map Identification Number: 19). This approved project is for the construction and operation of an international pedestrian bridge called San Diego-Tijuana Airport Cross Border Facility near San Diego, California, at the international boundary between the U.S. and Mexico. Construction is expected to begin in 2011, and the facility could start operating in late 2012 or early 2013. The plans call for an enclosed, 525-ft pedestrian bridge leading to the Tijuana airport and a two-story, 45,000-sq ft building on the U.S. side of the border that would house U.S. Customs and Border Protection facilities. A Finding of No Significant Impact was made by the Department of State, which was issued a Presidential permit, effective August 3, 2010. In making this determination, the Department consulted with other federal agencies, as required by Executive Order 11423, as amended.

5.2.2 Nitrogen Deposition

Atmospheric nitrogen deposition has been shown to have a number of detrimental effects on terrestrial ecosystems, particularly sensitive communities that are nitrogen-poor. Nitrogen deposition alters the structure and function of ecosystems by increasing the levels of nitrogen in the environment, encouraging the growth of nitrogen-loving plants (generally non-native Mediterranean grasses) which out-compete native species, resulting in decreased levels of biodiversity in many of California's sensitive habitats (Weiss 2006).

Many terrestrial ecosystems in the western United States, particularly forests, shrublands, and grasslands, are nitrogen limited and are likely to show growth responses to increased nitrogen deposition (Fenn et al. 2003). Nitrogen deposition is a cumulative process, eventually leading to nitrogen saturation (Weiss 2006). Nitrogen saturation can result in a number of adverse impacts, including decreased plant function as a result of leached nutrients (e.g., calcium) from the soil; loss of fine root biomass; decreases in symbiotic mycorrhizal fungi; leaching losses of base cations and nitrate into surface waters and ground waters, which increases soil and surface water acidification; and the promotion of exotic invasive species, such as Mediterranean grasses (Weiss 2006). Mediterranean grasses can be very detrimental to native communities as they out-compete native forbs and suppress shrub recruitment.

In California, a number of the occurring sensitive plant communities are nitrogen-poor, making them particularly vulnerable to nitrogen deposition. Impacts of nitrogen deposition on sensitive species include direct toxicity, changes in species composition among native plants, and enhancement of invasive species (Weiss 2006). In addition, the increased growth of nitrogen-loving plants due to elevated nitrogen levels leads to biomass accumulation, which increases the chance of and intensity of fires (Ochoa-Hueso et al. 2010). Research has shown that the conversion of coastal sage scrub habitats to annual grassland occurs very rapidly when two sequential fires, a few years apart, burn through the area (Fenn et al. 2003).

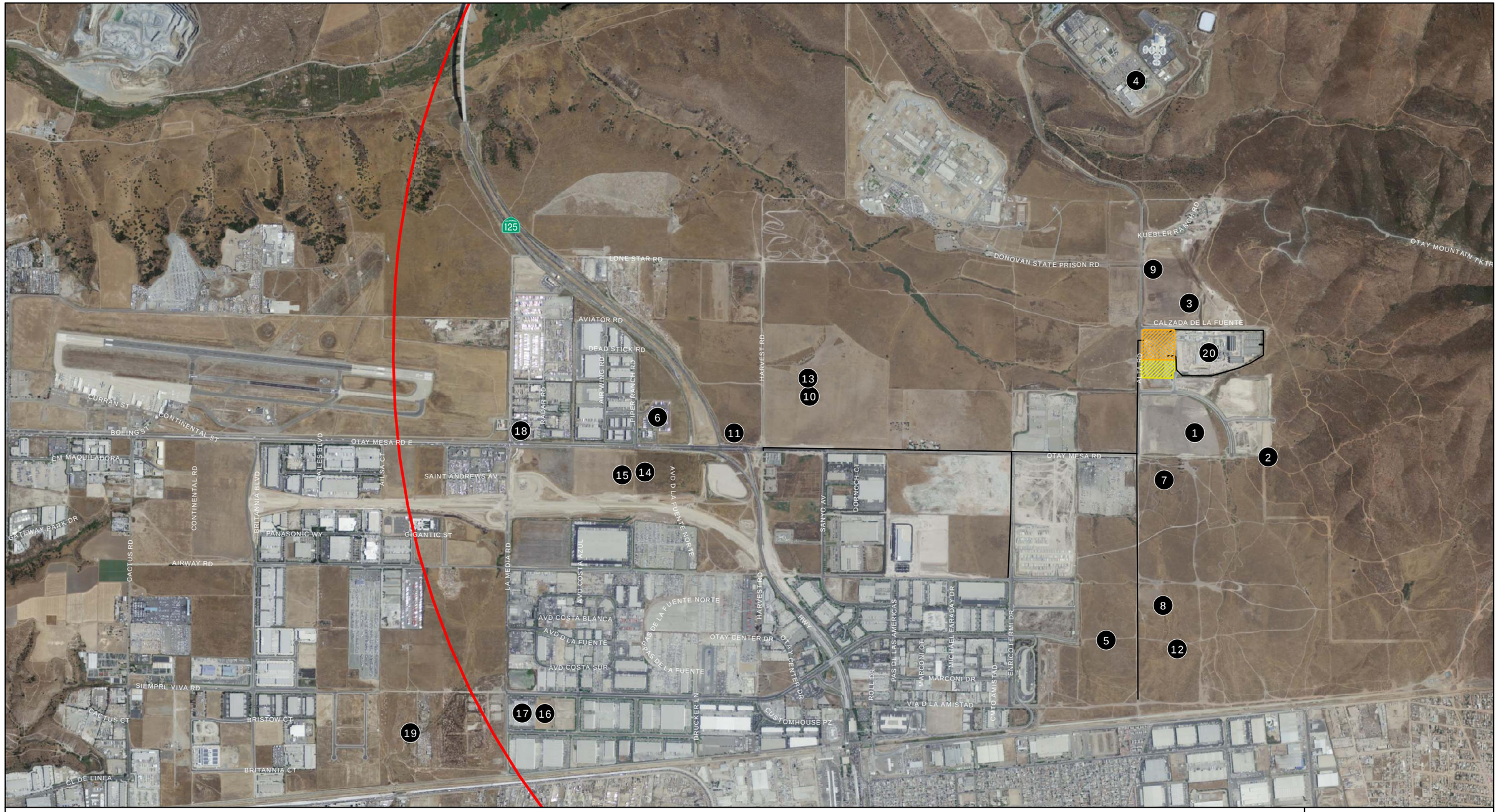
Studies of southern California coastal sage scrub, a habitat in which Otay Tarplant, Quino Checkerspot Butterfly, and Coastal California Gnatcatcher occur, found that diversity and density of arbuscular mycorrhizal fungal spores declined from 19 to 12 species with increasing nitrogen in the soils (Fenn et al. 2003). Native shrub species in coastal sage scrub habitat have a symbiotic relationship with mycorrhizal fungi and the decline of the fungi resulted in loss of growth of the dominant species in this habitat, California Sagebrush (*Artemisia californica*), whereas non-native grasses were not negatively affected. The study found that mycorrhizal feedbacks under nitrogen deposition may contribute to the decline of the dominant coastal sage scrub shrub species and its replacement by an abundant exotic grass, resulting in a conversion of shrubland to grassland (Fenn et al. 2003).

Large-scale combustion of fossil fuels, fertilizer applications, emissions from livestock, and other sources have greatly increased atmospheric nitrogen deposition rates. Electric power plants in California, primarily fired by natural gas, are major point sources of NO_x from combustion and NH_3 from SCR units used to control NO_x emissions (Weiss 2006). Pre-industrial atmospheric nitrogen deposition in the western U.S. is estimated at 0.25 kg/ha/yr (Weiss 2006). Current nitrogen atmospheric deposition in California includes areas of the state encompassing 55,000 sq km which are exposed to more than 5 kg/ha/yr and 10,000 sq km which are exposed to more than 10 kg/ha/yr of nitrogen deposition. Deposition hotspots include the Los Angeles-San Diego Area, the Central Valley, the San Francisco Bay Area, and the Sierra Nevada foothills (Weiss 2006).

5.2.3 Determination of Cumulative Effect

Lands approximately 1,500 ft from the project include USFWS-designated critical habitat for Otay Tarplant, Quino Checkerspot Butterfly, and California Gnatcatcher. Emissions from current infrastructure result in nitrogen deposition within these critical habitat areas (Figure 5-3). The operation of the proposed PPEC project will contribute nitrogen emissions into the atmosphere, increasing the regional nitrogen background. . The regional background deposition of nitrogen without the PPEC project is estimated to be 11.56 kg/ha/yr (Tonneson et al. 2007), which is more than double the threshold for significance in sensitive areas (i.e., 5 kg/ha/yr). This is not taking into account the unquantifiable emissions being produced in Mexico, which is located only 1.5 miles south of the project, and may also contribute nitrogen deposition to the region. The peak impact from OMGP, which is located directly adjacent and east of the project, is roughly 13 kg/ha/yr, compared to the project's contribution of a nominal 1.6 kg/ha/yr. The contribution of nitrogen deposition from the project is 2% of the total cumulative regional nitrogen background (Figure 5-5).

The project will result in a cumulative minor increase in nitrogen concentrations in the action area, particularly to the east (as shown by comparing Figures 5-3, and 5-4). The cumulative increase in nitrogen concentrations may increase the propagation of non-native invasive plant species and the alteration of native vegetation communities. The cumulative incremental increase in nitrogen emissions from the proposed project may affect approximately 50 acres of native habitat suitable for Otay Tarplant, Quino Checkerspot Butterfly, and Coastal California Gnatcatcher, but is not likely to adversely affect these species or designated critical habitat for these species.



Legend

- Potential Cumulative Project Location
- Project Site
- Laydown Area
- Project Site 3-Mile Radius*
- Potential Project Linears

* Note: Areas within the 3-mile radius not appearing on the figure do not contain proposed and active projects, per the County of San Diego and City of San Diego records.

N

0 Feet 2,000

FIGURE 5-2
CUMULATIVE PROJECT LOCATIONS

PIO PICO ENERGY CENTER

PROJECT NO.: 29874639

DATE: NOVEMBER 2011

URS

Source: DigitalGlobe, 2009.

Legend

- Project Site
- Otay Tarplant Critical Habitat
- Quino Checkerspot Butterfly
- California Gnatcatcher Critical Habitat

Nitrogen Deposition (kg/ha/yr)

- 13.0
- 15.0
- 17.0
- Maximum Impact (19.0068 kg/ha)

N

0 1,000 2,000 Feet

FIGURE 5-3

CUMULATIVE NITROGEN DEPOSITION, NOT INCLUDING PROJECT CONTRIBUTION (UNITS OF KG/HA/YR)

PIO PICO ENERGY CENTER

PROJECT NO.: 29874827

DATE: NOVEMBER 2011

URS

Source: U.S. Fish and Wildlife Service, Carlsbad Fish and Wildlife Final Critical Habitat for the Quino Checkerspot Butterfly (Euphydryas editha quino) June 17, 2009.
U.S. Fish and Wildlife Service, Carlsbad Fish and Wildlife Final Critical Habitat for the Deinandra conjugens (Otay tarplant) December 10, 2002.
U.S. Fish and Wildlife Service, Carlsbad Fish and Wildlife Final Critical Habitat for the Coastal California gnatcatcher (Polioptila californica californica) December 19, 2007.

Legend

- Project Site
- Otay Tarplant Critical Habitat
- Quino Checkerspot Butterfly
- California Gnatcatcher Critical Habitat

Nitrogen Deposition (kg/ha/yr)

- 13.0
- 15.0
- 17.0
- Maximum Impact (19.0068 kg/ha)

N

0 1,000 2,000 Feet

FIGURE 5-4

CUMULATIVE NITROGEN DEPOSITION, INCLUDING PROJECT CONTRIBUTION (UNITS OF KG/HA/YR)

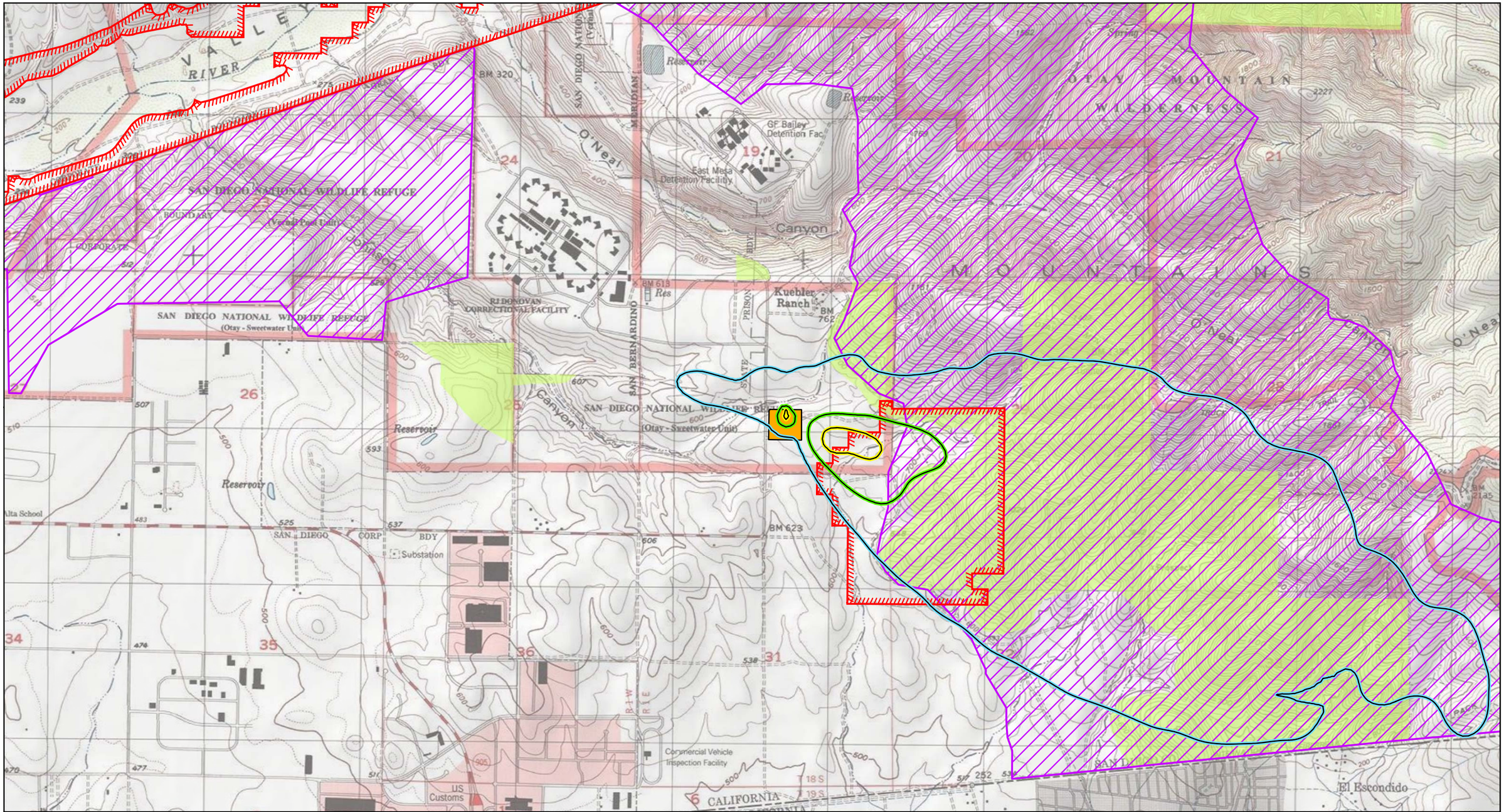
PIO PICO ENERGY CENTER

PROJECT NO.: 29874827

DATE: NOVEMBER 2011

URS

Source: U.S. Fish and Wildlife Service, Carlsbad Fish and Wildlife Final Critical Habitat for the Quino Checkerspot Butterfly (Euphydryas editha quino) June 17, 2009.
U.S. Fish and Wildlife Service, Carlsbad Fish and Wildlife Final Critical Habitat for the Deinandra conjugens (Otay tarplant) December 10, 2002.
U.S. Fish and Wildlife Service, Carlsbad Fish and Wildlife Final Critical Habitat for the Coastal California gnatcatcher (Polioptila californica californica) December 19, 2007.



Legend

- Project Site
- Otay Tarplant Critical Habitat
- Quino Checkerspot Butterfly
- California Gnatcatcher Critical Habitat

Project Contribution as a Percentage of Total Cumulative Nitrogen Deposition (%)

- 2
- 6
- 10

N

0 1,000 2,000 Feet

FIGURE 5-5
PROJECT COTRIBUTION AS A PERCENTAGE OF TOTAL CUMULATIVE NITROGEN DEPOSITION (UNITS OF PERCENT)

PIO PICO
ENERGY CENTER

PROJECT NO.: 29874827
DATE: NOVEMBER 2011

URS

Source: U.S. Fish and Wildlife Service, Carlsbad Fish and Wildlife Final Critical Habitat for the Quino Checkerspot Butterfly (Euphydryas editha quino) June 17, 2009.
U.S. Fish and Wildlife Service, Carlsbad Fish and Wildlife Final Critical Habitat for the Deinandra conjugens (Otay tarplant) December 10, 2002.
U.S. Fish and Wildlife Service, Carlsbad Fish and Wildlife Final Critical Habitat for the Coastal California gnatcatcher (Polioptila californica californica) December 19, 2007.

5.3 NITROGEN DEPOSITION MITIGATION MEASURES

Conservation measures are to benefit or promote the recovery of general and special-status species as an integral part of the proposed action. These actions will be taken by the federal agency and the Applicant to minimize and compensate for project nitrogen deposition effects on the Otay Tarplant, Quino Checkerspot Butterfly, and Coastal California Gnatcatcher and designated critical habitat for these species.

As part of the project, PPEC proposes to implement a number of avoidance, minimization, and conservation measures that would be applicable and common to all species and any designated critical habitats (Section 3.4, General Avoidance and Minimization Measures). These measures are intended to reduce, ameliorate, and/or avoid potential adverse effects on the biological resources. The specific avoidance and minimization measure discussed below are expected to augment other project-related environmental commitments, BMPs, and mitigation measures that would be required under separate federal and state laws, regulations, and executive orders.

- The project's NO_x emissions will also be offset to satisfy air District requirements. The NO_x offsets that will be surrendered were generated from the decommissioning of a power plant located 10 miles west of the project site.
- Applicant will contribute funds in support of weeding efforts at an approved research and habitat management area that would include periodic weeding of non-native plants. The proposed funding would be sufficient to pay for periodic weeding of 50 acres.

The project as thus constituted will, therefore, have no significant adverse effects on biological resources. Moreover, the project would not (either individually or cumulatively) cause an impermissible "take" of a protected species under Section 9 of the ESA.

5.4 CONCLUSION

The information analyzed for this assessment, including air quality modeling and nitrogen deposition analysis, is sufficient to support a determination that the PPEC project may affect, but is not likely to adversely affect, federally- listed species or their critical habitat. Furthermore, with the NO_x emission offsets and mitigation such as voluntary periodic habitat weeding, the project will compensate for all inconsequential cumulative adverse impacts from the project on biological resources and will mitigate any potential impacts to a less than significant level.

6.0 PREPARERS AND REVIEWERS

At the request of the PPEC, URS prepared this BA. A list of the professional members of the BA team is provided below.

URS Corporation

Maggie Fitzgerald	Program Manager: 20 years of experience
Lincoln Hulse	Project Biologist 11 years of experience
Greg Hoisington	Biologist 7 years of experience
Colleen Martin	Biologist 3 years of experience
David Barrackman	GIS Specialist 8 years of experience

7.0 REFERENCES CITED

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Watson, C. 2011. California Energy Commission, Sacramento, California. Personal communications with URS Corporation

APPENDIX A -
RESUMES OF NATURAL RESOURCES SPECIALISTS

URS

LINCOLN R. HULSE
Natural Resources Division Manager
Senior Wildlife Biologist

Areas of Expertise

State and Federal Endangered Species Acts, Wildlife Biology, small mammal trapping, special status bird surveys, Discretionary Natural Resource and Wetland Permitting; Clean Water Act; California Fish and Game Codes;, Migratory Bird Treat Act; CEQA/NEPA Compliance and Project Management

Years of Experience

With URS: 10+ Years

Education

B.S./1998/Environmental Sciences with emphasis in Biology/ Northern Arizona University

Registration/Certification

USFWS Recovery Permit No. TE-134334-0

- California Gnatcatcher
- San Bernardino Kangaroo Rat

Supplemental Education/Training

- 38-Hour Army Corps of Engineers Wetland Delineation & Management Training by the Wetland Training Institute (2006)
- Fairy Shrimp Identification by Mary Belk (2006)
- Southwestern Willow Flycatcher Identification Workshop by Southern Sierra Research Station (2006)
- CEQA Training workshop sponsored by AEP (2002 and 2005)
- Desert Tortoise surveying, monitoring, and handling workshop by the Desert Tortoise Council (November 2001)
- HAZWOPER 40 hour OSHA Training (2000-current)

Overview

Mr. Hulse has over a decade of consulting experience with Federal and State Endangered Species Acts (ESA) permitting and compliance, field research, ecological studies and project management. Mr. Hulse holds USFWS section 10(a)(1)(A) recovery permits for the California gnatcatcher and San Bernardino kangaroo rat. He has a strong knowledge of federal, state, and local environmental regulations and policies. He has prepared numerous biological reports, assessments, permit applications, and restoration plans to demonstrate compliance with the California Coastal Act, Clean Water Act (CWA), California Fish and Game Codes, California Environmental Quality Act (CEQA), and the National Environmental Policy Act (NEPA).

The following describes Mr. Hulse's experience in greater detail.

Panoche Energy Center Project

Designated biologist for the Panoche Energy Center (PEC) Application for Certification and subsequent Data Adequacy and Data Request responses. Prepared reports and assessments to comply and authorize *Incidental Take* for the PEC. The PEC is a proposed simple-cycle power generation project that consists of four (4) General Electric LMS100 natural gas-fired combustion turbine generators (CTGs) and natural gas pipeline tie-in. The total net generating capacity is 400MW with each CTG capable of generating 100MW. The proposed plant will be owned and operated by Panoche Energy Center, LLC. The electricity generated by this project would be in support of a contract with Pacific Gas and Electric (PG&E).

Starwood Energy Center Project

Designated biologist for the Starwood Energy Center Application for Certification and subsequent Data Adequacy and Data Request responses. Prepared reports and assessments to comply and authorize *Incidental Take* for the Project. The project includes simple-cycle electric generation project consisting of two (2) FT8-3 SwiftPac Gas Turbine Generator (CTG) units. The total net generating capacity is 120 megawatts (MW) with each CTG unit capable of generating 60 MW.

Granite Wind Energy Generation Project

Senior Biologist - participated in the preparation of reports, and assessments to document compliance with the BLM's West Mojave Plan, NEPA, Clean Water Act, California Fish and Game Codes, Migratory Bird Treaty Act, federal and state Endangered Species Acts for the proposed Granite Wind Project. Granite Wind, LLC is making an application for a right-of-way (ROW) grant for long-term commercial wind energy development from the Bureau of Land Management (BLM), Barstow District, California Field Office for the installation of a new wind energy generation facility and an application to San Bernardino County for a Conditional Use Permit for a commercial wind energy facility. The proposed facility will include the following: Access roads; Underground

electrical collection system; Underground communication lines; Up to 28 wind turbines, including concrete foundations, tubular steel towers, nacelles, and blades; Up to 28 pad mount transformers, one to be located beside the tower of each wind turbine; Overhead transmission line; Operations and Maintenance(O&M)building; Electrical interconnection / switchyard; Electrical substation; and Two permanent meteorological masts. The proposed project will be located on lands administered by the BLM, as well as private lands. Additional responsibilities included developing restoration plans, and mitigation packages in accordance with local, state, and federal agency standards.

Pio Pico Energy Center Project

Mr. Hulse prepared reports and assessments to document compliance with the Clean Water Act, California Fish and Game Codes, Migratory Bird Treaty Act, California Energy Commission and federal and state ESA for the Pio Pico Energy Center (PPEC). Mr. Hulse also coordinated and conducted threatened and endangered species surveys including: Coastal California Gnatcatcher, Fairy Shrimp, and least Bell's vireo, southwestern flycatcher and quino checkespot butterfly. The PPEC is a simple-cycle electrical generating facility that is contracted under a 20-year power purchase agreement (PPA) with San Diego Gas & Electric (SDG&E) in response to their 2009 Request for Offers (RFO). PPEC is designed to directly satisfy the San Diego area peaking and load-shaping generation current and long-term requirements. The PPEC site will be located in Chula Vista, California, along the southeastern city boundary of Chula Vista

Soda Mountain Solar Project

Senior Biologist - participated in the preparation of reports, and assessments to document compliance with the BLM's West Mojave Plan, NEPA, Clean Water Act, California Fish and Game Codes, Migratory Bird Treaty Act, federal and state Endangered Species Acts for the proposed Soda Mountain Solar Project. Caithness LLC, is in the process of obtaining authorization to construct and operate the Soda Mountain Solar Project - a proposed 350 megawatt ("MW") solar electric power generating facility on federal lands managed by the U.S. Department of Interior, BLM, in San Bernardino County. The Project consists of about 7,000 acres, located approximately 5 miles southwest of Baker, California along Route I-15. The solar power generating system proposed will utilize photovoltaic panels. The power generated by the Project will be intended for sale to one or more California electric utilities.

Carrizo Energy Project

Mr. Hulse is assisting Carrizo Energy, LLC, to gain environmental permits to license and build their Carrizo Energy Solar Farm (CESF). Mr. Hulse has performed small mammal trapping and reporting to document compliance the federal and state Endangered Species Acts for the proposed Project. The project consists of approximately 195 Compact Linear Fresnel Reflector (CLFR) solar concentrating lines, associated steam drums, steam turbine generators (STGs), air-cooled condensers (ACCs), and infrastructure, producing up to a nominal 177 megawatts (MW) net. The CESF is located in

an unincorporated area of eastern San Luis Obispo County, west of Simmler and northwest of California Valley, California.

Bullard Energy Center Project, City of Fresno, CA

Mr. Hulse coordinated and prepared reports and assessments to document compliance with CEQA, and federal and state ESA for the Bullard Energy Center as they seek approval from the CEC to construct and operate a simple-cycle power generation project that consists of two General Electric (GE) LMS100 natural gas-fired combustion turbine generators (CTGs) and natural gas pipeline tie-in. The total net generating capacity is 200 megawatts (MW) with each CTG capable of generating 100MW. Coordinated California Fish and Game Code and federal Endangered Species Act compliance and permitting for impacts to San Joaquin kit fox.

Caltrans Route 58 Bypass Project Mojave, California

Mr. Hulse was the designated biological monitor for Caltrans route 58-bypass construction project. Mr. Hulse performed pre-construction federal and state ESA compliance surveys and weekly biological monitoring; desert tortoise and San Joaquin kit fox. Monitoring also included regular environmental awareness training and weekly reporting.

References

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(916) 653-1648

Rick York
California Energy Commission
1516 Ninth Street, MS-40
Sacramento, CA 95814
Phone: 916-654-3945

Areas of Expertise

Wetland Ecology, Natural Resource and Wetland Permitting; Clean Water Act; California Fish and Game Codes; Migratory Bird Treat Act; California Coastal Commission; state and federal Endangered Species Acts; Regional Water Quality Control Board permitting, Biological Monitoring and Surveys for eelgrass (*Zostera marina*), invasive algae (*Caulerpa taxifolia* and banned species), and other marine flora and fauna.

Years of Experience

With URS: 6 Years
With Other Firms: 2 Years

Education

MS/2004/Biology/California State University, Long Beach.

BS/2001/Ecology and Environmental Biology/California State University, Long Beach.

Supplemental Education/Training

- Desert Tortoise Council Tortoise Handling Workshop.
- Flat Tailed Horned Lizard Monitor Training – Administered by Bureau of Land Management, El Centro, CA.
- Caulerpa taxifolia Identification Training – Administered by NMFS, Long Beach, CA.
- Project Management Training PM100/200, Tetra Tech EC, Inc
- CEQA 16-Hour Training Workshop – Successful CEQA Compliance, UCLA Extension Course
- 40-Hour HAZWOPER, December, 2004; 8-Hour HAZWOPER Refresher December, 2008
- Chevron Loss Prevention Systems (LPS) Training
- 38-Hour Army Corp of Engineers Wetland Delineation and Management Training Program, Richard Chinn Environmental Training
- Nuclear Health Physics Radiation Protection Training Program, 1990 Institute for Resource Management (IRM)

GREGORY HOISINGTON

Ecologist, Permitting Specialist

OVERVIEW

Mr. Hoisington is an Ecologist with over 8 years of professional experience in natural resource permitting; conducting biological surveys, construction monitoring and Global Positioning System (GPS) data collection. His professional experience also includes protocol USFWS special status species surveys for avian, mammalian, reptilian, vernal pool branchiopods and botanical surveys. He has prepared numerous biological reports and assessments to demonstrate compliance with the Western Riverside Multiple Species Habitat Conservation Plan (MSHCP), Section 7 and 10 of the Endangered Species act (ESA), California Fish and Game Codes, California Environmental Quality Act (CEQA), National Environmental Policy Act (NEPA), and the California Energy Commission (CEC). The following describes Mr. Hoisington's experience in greater detail.

PROJECT SPECIFIC EXPERIENCE

Soda Mountain Solar Project

Task Manager responsible for the preparation of reports, and assessments to document compliance with the BLM's West Mojave Plan, NEPA, Clean Water Act, California Fish and Game Codes, Migratory Bird Treaty Act, federal and state Endangered Species Acts for the proposed Soda Mountain Solar Project. Caithness LLC, is in the process of obtaining authorization to construct and operate the Soda Mountain Solar Project - a proposed 350 megawatt ("MW") solar electric power generating facility on federal lands managed by the U.S. Department of Interior, BLM, in San Bernardino County. The Project consists of about 7,000 acres, located approximately 5 miles southwest of Baker, California along Route I-15. The solar power generating system proposed will utilize photovoltaic panels. The power generated by the Project will be intended for sale to one or more California electric utilities. Mr. Hoisington coordinated Habitat Assessment Surveys; Focused Desert Tortoise Surveys; Focused Special Status Plant Surveys; Special Aquatic Resource Area Preliminary Jurisdictional Determinations; and Focused Mojave Fringe-Toed Lizard Surveys. Additional responsibilities included developing restoration plans, field survey protocols, and mitigation packages in accordance with local, state, and federal agency standards.

Carrizo Energy, LLC; San Luis Obispo County, CA.

Performed habitat suitability assessments and protocol adult and juvenile blunt nose leopard lizard surveys as well as small mammal trapping and reporting for Carrizo Energy, LLC, to gain environmental permits to license and build their Carrizo Energy Solar Farm (CESF). The project consists of approximately 195 Compact Linear Fresnel Reflector (CLFR) solar concentrating lines, associated steam drums, steam turbine generators (STGs), air-cooled condensers (ACCs), and infrastructure, producing up to a nominal 177 megawatts (MW) net.

Granite Wind Energy Generation Project

Mr. Hoisington - participated in the preparation of reports, and assessments to document compliance with the BLM's West Mojave Plan, NEPA, Clean Water Act, California Fish and Game Codes, Migratory Bird Treaty Act, federal and state Endangered Species Acts for the proposed Granite Wind Project. Granite Wind, LLC is making an application for a right-of-way (ROW) grant for long-term commercial wind energy development from the Bureau of Land Management (BLM), Barstow District, California Field Office for the installation of a new wind energy generation facility and an application to San Bernardino County for a Conditional Use Permit for a commercial wind energy facility. The proposed facility will include the following: Access roads; Underground electrical collection system; Underground communication lines; Up to 28 wind turbines, including concrete foundations, tubular steel towers, nacelles, and blades; Up to 28 pad mount transformers, one to be located beside the tower of each wind turbine; Overhead transmission line; Operations and Maintenance(O&M)building; Electrical interconnection / switchyard; Electrical substation; and Two permanent meteorological masts. The proposed project will be located on lands administered by the BLM, as well as private lands. Additional responsibilities included developing restoration plans, and mitigation packages in accordance with local, state, and federal agency standards.

Pio Pico Energy Center Project

Mr. Hoisington prepared reports and assessments to document compliance with the Clean Water Act, California Fish and Game Codes, Migratory Bird Treaty Act, California Energy Commission and federal and state ESA for the Pio Pico Energy Center (PPEC). Mr. Hoisington also coordinated and conducted threatened and endangered species surveys including: Coastal California Gnatcatcher, Fairy Shrimp, and least Bell's vireo, southwestern flycatcher and quino checkespot butterfly. The PPEC is a simple-cycle electrical generating facility that is contracted under a 20-year power purchase agreement (PPA) with San Diego Gas & Electric (SDG&E) in response to their 2009 Request for Offers (RFO). PPEC is designed to directly satisfy the San Diego area peaking and load-shaping generation current and long-term requirements. The PPEC site will be located in Chula Vista, California, along the southeastern city boundary of Chula Vista

Panoche Energy Center Project

Mr. Hoisington supported the Panoche Energy Center (PEC) Application for Certification and subsequent Data Adequacy and Data Request responses. Prepared reports and assessments to comply and authorize *Incidental Take* for the PEC. The PEC is a proposed simple-cycle power generation project that consists of four (4) General Electric LMS100 natural gas-fired combustion turbine generators (CTGs) and natural gas pipeline tie-in. The total net generating capacity is 400MW with each CTG capable of generating 100MW. The proposed plant will be owned and operated by Panoche Energy Center, LLC. The electricity generated by this project would be in support of a contract with Pacific Gas and Electric (PG&E).

URS

COLLEEN M. MARTIN

Staff Botanist / Ecologist

Areas of Expertise

Botany and Plant Systematics, Ornithology, Applied Ecology, Wetland Delineations, Bird Banding

Years of Experience

With URS: > 1 Year
With other firms: 3 Years
Non-firm field research: 3 Years

Education

BS, Biology – California State University, Chico – Chico, CA

Additional Training

- Plant Systematics, 2011, CSU Chico; course included the revised taxonomic treatments for the 2nd Edition of The Jepson Manual
- Bird Banding Techniques Workshop, 2010, Klamath Bird Observatory
- Ecology of California Bats, 2008, San Francisco State University – Sierra Nevada Field Campus
- Rare Plant Assessments Workshop, 2008, California Native Plant Society and Northern California Botanists
- Northern California Botanists Symposium, 2008
- Bird Banding Workshop – Age Determination by Plumage Characteristics, 2008, CSU Chico
- Plant Diversity and Identification, 2007, CSU Chico
- Riparian Habitat Joint Venture Conference, 2007
- Wetland Delineation Certification Course, 2006, Wetland Training Institute, Inc.

Ms. Martin has an extensive botanical and wildlife background – including field surveys, research, and ecological studies. Ms. Martin is a graduate from California State University, Chico. Colleen has participated in a variety of field work, including rare plant surveys; bird banding; bat mist-netting; vegetation mapping; wetland delineations; post-construction bat and avian fatality surveys on wind energy facilities; and general botanical and wildlife surveys. Over the last six years, Colleen has worked on numerous biological reports, including Environmental Impact Report/Environmental Impact Statements, Natural Environmental Studies, Wetland Delineations, Restoration Plans, Biological Resource Assessments, Biological Constraints Reports, Arborist Survey Reports, and various field survey summary reports.

PROJECT SPECIFIC EXPERIENCE

Granite Wind Energy Generation Project, URS Corporation

Colleen prepared the Biological Resources section of the Environmental Impact Statement/Environmental Impact Report for the proposed Granite Wind Project. Granite Wind, LLC is making an application for a right-of-way grant for long-term commercial wind energy development from the Bureau of Land Management (BLM), Barstow District, California Field Office for the installation of a new wind energy generation facility and an application to San Bernardino County for a Conditional Use Permit for a commercial wind energy facility. The proposed facility will include the following: access roads; underground electrical collection system and communication lines; up to 28 wind turbines and pad mount transformers; over head transmission line; operations and maintenance building; electrical interconnection/switchyard; electrical substation; and two permanent meteorological masts. The proposed project is located in the Mojave Desert and will occur on lands administered by the BLM, as well as private lands, and has the potential to impact special-status species, including desert tortoise, golden eagle, and migrating bat and avian species.

March Air Reserve Base Integrated Natural Resources Management Plan Project

Colleen revised and updated the 2005 March Air Reserve Base (ARB) Integrated Natural Resources Management Plan (INRMP) in accordance with United States Air Force (USAF) policy and the Sikes Act (16 United State Code 670a et seq). The INRMP guides the natural resources management program at March ARB, and details a solid foundation upon which to achieve its goal of ensuring the sustainability of desired military training and maintain ecosystem viability.

California High-Speed Rail Authority's High Speed Train Project

The California High-Speed Rail Authority (Authority) was created in 1996 to develop a plan for the construction, operation, and financing of a statewide, inter-city high-speed passenger train system. The Authority and the FRA completed a Program level Environmental Impact Report (EIR)/Environmental Impact Statement (EIS) for a proposed California High Speed Train (HST) System in 2005 as the first-phase of a tiered environmental review process for the California HST System. Colleen conducted special-status plant surveys, vegetation community mapping, and wetland delineation surveys along the proposed Project route from Palmdale to Los Angeles (e.g., between Union Station, Los Angeles, California and Palmdale, California) in support of preparation of a Project Level EIR/EIS. The field surveys and data collection supported the definition of a proposed linear HST corridor, which included the Project's anticipated 500-foot physical ground disturbance footprint (e.g. stations, track, equipment storage areas, and so forth) plus a 1,000-foot buffer. Colleen evaluated the onsite habitat conditions and determined the potential for occurrence of common and special-status species, their habitats, and other special aquatic resource areas (e.g., Clean Water Act and CFGC jurisdictional features) within the proposed Project's study area, which included Mojave Desert, coastal sage scrub, and chaparral communities. Colleen prepared the Biological Resources section of the EIR/EIS and the Focused Special-Status Plant Survey Report and participated in the preparation of the Natural Environmental Study Report for the proposed Project route from Palmdale to Los Angeles.

Pio Pico Energy Center Project

The Pio Pico Energy Center (PPEC) is a simple-cycle electrical generating facility that is contracted under a 20-year power purchase agreement with San Diego Gas & Electric in response to their 2009 Request for Offers. PPEC is designed to directly satisfy the San Diego area peaking and load-shaping generation current and long-term requirements. The PPEC site will be located in Chula Vista, California, along the southeastern city boundary of Chula Vista. Colleen conducted surveys for special-status plants and the endangered quino checkerspot butterfly and participated in the preparation of the Biological Resources section of the Application for Certification for the project.

River Partners, Chico, CA

While working with River Partners, Colleen designed plant communities for restoration projects, focusing on habitat for riparian dependent wildlife species. Colleen also conducted field surveys on restoration sites to monitor for plant survivorship and health, wildlife use and invasive species presence; created Restoration Plans, End of Season Reports

and Trial Summary Reports; and conducted monitoring and wrote reports for elderberry transplants in accordance with USFWS 1999 Conservation Guidelines for the Valley Elderberry Longhorn Beetle.

Bat Conservation International, East Coast
While working with Bat Conservation International, Colleen conducted post-construction fatality searches to monitor bat and bird mortality at wind energy facilities. Colleen processed bat and bird carcasses to determine species, age, sex and reproductive status; collected carcass data on specimens found including carcass condition, visible injuries and carcass location in relation to turbine; examined bat carcasses for signs of White-nose Syndrome; and collected bat wing and hair samples. Colleen also set up and maintained AnaBat equipment on monitoring towers; collected acoustic monitoring data at pre-construction wind energy sites; and analyzed bat acoustic call recordings using AnaLook programming.

References:

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APPLICATION FOR CERTIFICATION
FOR THE *PIO PICO ENERGY CENTER, LLC*

Docket No. 11-AFC-1
PROOF OF SERVICE
(Revised 11/22/11)

Pio Pico Energy Center, LLC

Applicant's Biological Assessment

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DECLARATION OF SERVICE

I, Judith M. Warmuth, declare that on November 30, 2011, I deposited copies of the aforementioned document and, if applicable, a disc containing the aforementioned document in the United States mail at 500 Capitol Mall, Suite 1600, Sacramento, California 95814, with first-class postage thereon fully prepaid and addressed to those identified on the Proof of Service list above.

AND/OR

Transmission via electronic mail, personal delivery and first class U.S. mail were consistent with the requirements of California Code of Regulations, Title 20, sections 1209, 1209.5, and 1210. All electronic copies were sent to all those identified on the Proof of Service list above.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct, that I am employed in the county where this mailing occurred, and that I am over the age of 18 years and not a party to the proceeding.

Judith M. Warmuth