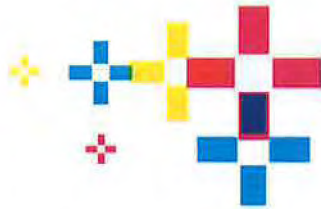


DOCKETED	
Docket Number:	07-AFC-06C
Project Title:	Carlsbad Energy Center - Compliance
TN #:	229494
Document Title:	Biological Resources Mitigation Implementation and Monitoring Plan (BIO-6)
Description:	Biological Resources Mitigation Implementation and Monitoring Plan - Construction Termination Report
Filer:	Anwar Ali
Organization:	Carlsbad Energy Center LLC
Submitter Role:	Applicant
Submission Date:	8/20/2019 3:34:39 PM
Docketed Date:	8/20/2019



Carlsbad Energy Center LLC
4950 Avenida Encinas
Carlsbad, CA 92008
Phone: 760-710-3970

August 16, 2019

Anwar Ali, Ph.D.
Compliance Project Manager
Carlsbad Energy Center Project (07-AFC-06C)
California Energy Commission
1516 Ninth Street (MS-2000)
Sacramento, CA 95814

**RE: CARLSBAD ENERGY CENTER PROJECT, DOCKET NO. 07-AFC-06C
CONDITION OF CERTIFICATION, BIO-6, REVISED BIOLOGICAL
RESOURCES MITIGATION IMPLEMENTATION AND MONITORING PLAN
CONSTRUCTION TERMINATION REPORT**

Dear Dr. Ali:

Carlsbad Energy Center LLC ("Project Owner") submits the attached revised Biological Resources Mitigation Implementation and Monitoring Plan - Construction Termination Report in compliance with the AFC Docket No. 07-AFC-06C, Conditions of Certification (COCs) BIO-6 for the amended Carlsbad Energy Center Project (ACECP) located at 4600 Carlsbad Boulevard, Carlsbad, California. This report is submitted for your review and approval.

If you have any questions or comments, please do not hesitate to contact Ryan Goerl at (760) 710-3943.

Sincerely,

A handwritten signature in blue ink, consisting of a stylized first name and a longer, more complex last name.

Paul Mattesich
Plant Manager
Carlsbad Energy Center LLC

Attached: Biological Resources Mitigation Implementation and Monitoring Plan - Construction Termination Report, Amended Carlsbad Energy Center Project (07-AFC-06C), Prepared by ERM, August 2019

Cc: File



Prepared for:
Carlsbad Energy
Center LLC

Biological Resources Mitigation Implementation and Monitoring Plan - Construction Termination Report

Amended Carlsbad Energy Center Project
(07-AFC-06C)

August 2019

Signature Page

August 2019

Biological Resources Mitigation Implementation and Monitoring Plan – Construction Termination Report



Steve Williams, P.G.
Partner



Melissa Fowler
Designated Biologist/Senior Biologist

Environmental Resources Management
1920 Main Street, Suite 300
Irvine, California 92614

© Copyright 2019 by ERM Worldwide Group Ltd and / or its affiliates ("ERM").
All rights reserved. No part of this work may be reproduced or transmitted in any form,
or by any means, without the prior written permission of ERM

CONTENTS

1. INTRODUCTION 1

 1.1 Conditions of Certification 1

2. PROJECT LOCATION 2

 2.1 Project Description 2

 2.2 BRMIMP Overview 2

3. COMPLETED BRMIMP ITEMS 3

 3.1 BIO-1 Designated Biologist Selection 3

 3.2 BIO-2 Designated Biologist Duties 3

 3.3 BIO-3 Biological Monitor Qualifications 4

 3.4 BIO-4 Designated Biologist and Biological Monitor Authority 4

 3.4.1 Non-Compliance Notifications 4

 3.5 BIO-5 Worker Environmental Awareness Training 5

 3.5.1 Program Overview 5

 3.5.2 WEAP Training Documentation 5

 3.6 BIO-6 Biological Resources Mitigation and Implementation Monitoring Plan 5

 3.7 BIO-7 Impact Avoidance Mitigation Measures 6

 3.8 BIO-8 Mitigation Management to Avoid Harassment or Harm 7

4. MODIFICATION TO MITIGATION MEASURES 9

 4.1 Phase I Modification 9

 4.2 Phase II Modification 9

5. OUTSTANDING MITIGATION AND MONITORING ITEMS 10

6. REFERENCES 11

APPENDIX A BIOLOGICAL RESOURCES COMPLIANCE MONITORING LOG

APPENDIX B FINAL SITE PHOTOGRAPHS

APPENDIX C CONDITIONS OF CERTIFICATION

List of Figures

- 1 Site Vicinity Map

1. INTRODUCTION

ERM, Inc. has prepared this Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP) Construction Termination Report on behalf of Carlsbad Energy Center LLC (Project Owner) for the Amended Carlsbad Energy Center Project (Amended CECP or Project; see Figure 1) in San Diego County, California. This BRMIMP Construction Termination Report has prepared in adherence with the California Energy Commission (CEC) Conditions of Certification (COC) BIO-6. As part of BIO-6 Verification, a Construction Termination Report must be provided to the CEC Compliance Project Manager (CPM) identifying which items of the BRMIMP have been completed; a summary of all modifications to mitigation measures made during the project's site mobilization, ground disturbance, grading, and construction phases; and which mitigation and monitoring items are still outstanding. Designated Biologist duties will continue through operation and closure activities per associated COCs.

Tank demolition/removal, site preparation and remediation activities for Phase I of the Amended CECP were completed in November 2015. Phase I berm removal commenced the first week of February 2016 and was completed in mid-May 2016. The CEC's CPM approved the start of construction (Phase II) on 6 June 2016. Phase II of the Amended CECP began in February 2017 and was completed in October 2018 with complete demobilization in January 2019. The last construction biological monitoring event was conducted on 22 January 2019 and the associated log is included in Appendix A. The Designated Biologist conducted a site visit on 25 January 2019 and the associated site photographs are in provided in Appendix B. The last on-site visit by the construction contractor occurred on 31 January 2019.

The BRMIMP was implemented throughout Phase I and II of the CECP. No Non-Compliance Notifications were issued to the CEC CPM during Phase II Amended CECP activities. There are no outstanding construction-related corrective measures for the CECP.

1.1 Conditions of Certification

A list of the Biological Resource COCs associated with the Amended CECP is included below. A full description of all COCs is provided in Appendix C, which includes comments on the applicability of each COC during operation and closure activities. All construction-related duties and requirements have been fulfilled.

- BIO-1 Designated Biologist Selection
- BIO-2 Designated Biologist Duties
- BIO-3 Biological Monitor Qualifications
- BIO-4 Designated Biologist and Biological Monitor Authority
- BIO-5 Worker Environmental Awareness Program (WEAP)
- BIO-6 Biological Resources Mitigation Implementation and Monitoring Plan
- BIO-7 Impact Avoidance Mitigation Features
- BIO-8 Mitigation Management to Avoid Harassment or Harm

2. PROJECT LOCATION

The Amended CECP site is located in Carlsbad, San Diego County, California (Figure 1). The site address is 4600 Carlsbad Boulevard, Carlsbad, California 92008. The Amended CECP site is located on a portion of the approximately 95-acre Encina Power Station (EPS) located in Township 12 South, Range 4 West, Section 7, in San Diego County. Elevation of the Amended CECP site varies between approximately 32 and 50 feet above mean sea level (msl). The Amended CECP site is located within the northeastern portion of the existing EPS, which is bordered to the east by Interstate 5 (I-5), to the south by the San Diego Gas & Electric (SDG&E) switchyard and Cannon Substation, to the west by the Pacific Ocean, and to the north by the Agua Hedionda Lagoon. The project site is bisected by the North County Transit District (NCTD) Railroad Right-Of-Way that runs north and south through the Encina Power Station (EPS). Cabrillo Power I operates a private rail crossing under a license agreement with NCTD, enabling internal vehicle traffic to cross the rail line. The predominant land use in the vicinity of the site is mainly industrial. Residential, commercial, and open space land uses are also situated nearby.

The nearest significant natural habitat areas are the Pacific Ocean, approximately 0.3 mile west of the Amended CECP site, and Agua Hedionda Lagoon, approximately 0.1 mile north and east of the Amended CECP site, on the opposite side of I-5.

2.1 Project Description

The Amended CECP has been divided into four phases as follows:

- Phase I - Above grade demolition/removal activities for Tanks 1, 2, 4, 5, 6 and 7 including soil remediation in the tank basins, as needed, and berm removal between Tanks 4 and 5, 5 and 6, and 6 and 7. This phase included soil disturbance and excavations associated with soil remediation activities. Above grade demolition and removal of Tanks 5, 6 and 7 was accomplished under the existing CEC License for CECP.
- Phase II – Site preparation, construction and commissioning of the Amended CECP as modified by the PTA.
- Phase III – Retirement and decommissioning of the EPS facility.
- Phase IV – Demolition of the EPS facility. Phase IV specifically excludes below grade demolition and site remediation, which will be accomplished under the authority of San Diego County Environmental Health Department (site remediation) and the City of Carlsbad (redevelopment of the site for future use) subsequent to the completion of Phase IV.

2.2 BRMIMP Overview

A BRMIMP was submitted in August 2014 (revised June 2015) for CECP Phase I demolition/removal activities for Tanks 5, 6, and 7, in support of the relevant COCs adopted by the CEC in its June 2012 Final Commission Decision (07 - AFC - 06C). After CEC CPM approval in December 2014, compliance measures, as prescribed in the approved BRMIMP, were monitored at the site and reported on in monthly compliance reports (MCR) submitted to the CEC CPM.

3. COMPLETED BRMIMP ITEMS

The following sections will identify which items of Amended CECP BRMIMP have been completed.

3.1 BIO-1 Designated Biologist Selection

The Project Owner has assigned Melissa Fowler as the Designated Biologist for the Amended CECP. The CEC CPM has approved Ms. Fowler to serve as the Designated Biologist. As required, Ms. Fowler met the following minimum qualifications:

- A bachelor's degree in biological sciences, zoology, botany, ecology, or a closely related field;
- Three years of experience in field biology or current certification of a nationally recognized biological society such as the Ecological Society of America or The Wildlife Society; and
- At least one year of field experience with biological resources found in or near the project area.

No site or related facility activities commenced prior to CEC CPM approval of the Designated Biologist and pre-construction surveys were conducted prior to site mobilization and construction-related activities for Phase II of the Amended CECP.

3.2 BIO-2 Designated Biologist Duties

The Project Owner ensured that the Designated Biologist preformed the following during each site (or related facilities) mobilization, ground disturbance, grading, and construction activities. The Designated Biologist was assisted by CEC-approved Biological Monitor but remained the contact for the Project Owner and CPM. The Designated Biologist's responsibilities were to:

- Advise the Project Owner's construction and operation managers on the implementation of the Biological Resources COCs;
- Consult on the preparation of the Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP) submitted by the Project Owner;
- Be available to supervise, conduct, and coordinate mitigation, monitoring, and other biological resource compliance efforts, particularly in areas requiring avoidance or containing sensitive biological resources, such as wetlands and 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 could have been 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;
- Inspect work areas with site personnel prior to the start of each workday;
- Periodically inspect areas (by Designated Biologist or Biological Monitor) with high vehicle activity;
- Notify the Project Owner and the CPM of any non-compliance with any Biological Resources Condition of Certification;
- Respond directly to inquiries of the CPM regarding biological resources;
- Maintain written records of the tasks specified above and those included in the BRMIMP. Summaries of these records shall be submitted in the monthly compliance report and the annual report; and

- Train the Biological Monitors as appropriate, and ensure their familiarity with BRMIMP, Worker Environmental Awareness Program (WEAP) training, and permits.

The Designated Biologist submitted in the MCRs to the CPM, which included copies of written reports and summaries that document the above biological resources activities.

3.3 BIO-3 Biological Monitor Qualifications

The Designated Biologist review and trained all CEC-approved Biological Monitors. Biological Monitors submitted resumes, with at least three references and contact information to the CPM for approval. The resumes demonstrated appropriate education and experience to accomplish the assigned biological resource tasks. The Designated Biologist trained Biological Monitors with a site orientation, which included a review of the COCs, BRMIMP, WEAP, and biological permits.

3.4 BIO-4 Designated Biologist and Biological Monitor Authority

The Project Owner's construction managers acted on the advice of the Designated Biologist and Biological Monitors, which ensured compliance with the COCs.

The Designated Biologist and Biological Monitors had the following responsibilities during Phase II Amended CECP site mobilization, ground disturbance, grading, and construction activities:

1. 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;
 - a. The Designated Biologist and/or Biological Monitors would establish no-disturbance buffers around avian nests for species protected under the federal Migratory Bird Treaty Act (MBTA) and California Fish and Game Codes. The buffers would remain in place until the nest successfully fledged, was abandoned, or failed.
 - b. All site personnel and contractors received WEAP training, which instructed individuals on what actions to take if they had encountered a nest.
 - c. Aside of no-disturbance buffers for nesting birds, no additional exclusion zones were established for biological resources.
2. Inform the Project Owner and the construction manager when to resume activities;
 - a. After the nest would successfully fledge, was abandoned, and/or failed, the no-disturbance buffers were removed. All activities associated with no-disturbance buffers was documented in the MCRs and submitted to the CEC CPM.
3. Notify the CPM if there is a halt of any activities and advise the CPM of any corrective actions that have been taken, or will be instituted, as a result of the work stoppage.
 - a. Excluding no-disturbance buffers for nesting birds, no additional work stoppages were issued or required for protection of biological resources.
 - b. Vegetation removal onsite was conducted after clearance surveys were conducted by the Designated Biologist and/or Biological Monitors.

3.4.1 Non-Compliance Notifications

No Non-Compliance Notifications were issued to the CEC CPM during Phase II Amended CECP activities. Therefore, no additional corrective measures were required.

3.5 BIO-5 Worker Environmental Awareness Training

As required by BIO-5, the Project Owner developed and implemented a CPM-approved WEAP in which each of Project Owner's employees, as well as employees of contractors and subcontractors who worked on the project site or in any related facilities during site mobilization, ground disturbance, grading, demolition, and construction, were informed about the biological resources potentially associated with the Project.

3.5.1 Program Overview

Consistent with the CEC's requirements set forth in BIO-5, the WEAP:

- Was developed by the Designated Biologist and consisted of an on-site presentation. Supporting written material and electronic media were made available to all participants;
- Discussed the locations and types of sensitive biological resources on the project site and adjacent areas;
- Presented the reasons for protecting these resources;
- Presented the meaning of various temporary and permanent habitat protection measures;
- Identified whom to contact if there are further comments and questions about the material discussed in the program; and
- Included a training acknowledgment form signed by each worker indicating that he/she received training and shall abide by the guidelines.

A copy of the WEAP was previously submitted to the CEC CPM.

3.5.2 WEAP Training Documentation

The Project Owner prepared and submitted the WEAP for Phase I in August 2014. The WEAP was applicable and no changes were made to the Amended CECP. All supporting written materials and script for electronic media (video or DVD) were prepared and reviewed by the Designated Biologist. The Project Owner provided in the MCRs the number of people who have completed the training in the prior month and a total of all who had completed the training to date. The Project Owner submitted two copies of the CPM-approved training materials and electronic media to the CPM. The signed training acknowledgement forms from construction will be kept on file by the Project Owner for at least 6 months after the start of commercial operation. During project operation, signed statements for active project operational personnel will be kept on file for 6 months following the termination of an individual's employment.

3.6 BIO-6 Biological Resources Mitigation and Implementation Monitoring Plan

The Project Owner submitted two copies of the BRMIMP to the CPM (for review and approval) and to CDFW and USFWS (for review and comment) and implemented the measures identified in the approved BRMIMP. The BRMIMP was submitted in August 2014 (revised June 2015) for CECP Phase I demolition/removal activities for Tanks 5, 6, and 7, in support of the relevant COCs adopted by the CEC in its June 2012 Final Commission Decision (07 - AFC - 06C). After CEC Compliance Project Manager (CPM) approval in December 2014, compliance measures, as prescribed in the approved BRMIMP, were monitored at the site and reported on in MCRs, which were submitted to the CEC CPM.

The BRMIMP was prepared in consultation with the Designated Biologist and identified:

1. Biological resource mitigation, monitoring, and compliance measures proposed and agreed to by the Project Owner;
2. Project Owner-proposed mitigation measures presented in the Application for Certification;
3. Biological resource COCs in the Final Commission Decision to avoid or mitigate impacts;
4. Biological resource mitigation, monitoring and compliance measures required in other state agency terms and conditions, such as those provided in the Regional Water Quality Control Board permits;
5. Biological resource mitigation, monitoring, and compliance measures required in local agency permits, such as site grading and landscaping requirements;
6. Sensitive biological resources to be impacted, avoided, or mitigated by project construction, operation, and closure;
7. Required mitigation measures for each sensitive biological resource;
8. A detailed description of measures that were taken to avoid or mitigate temporary disturbances from construction activities;
9. Locations on a map, at an approved scale, of sensitive biological resource areas subject to disturbance and areas that required temporary protection and avoidance during construction;
10. Aerial photographs, at an approved scale, of all areas to be disturbed during project construction activities - one set prior to any site (and related facilities) mobilization disturbance and one set subsequent to completion of project construction. Include planned timing of aerial photography and a description of why times were chosen;
11. Duration for each type of monitoring and a description of monitoring methodologies and frequency;
12. Performance standards to be used to help decide if/when proposed mitigation is or is not successful;
13. Performance standards and remedial measures to be implemented if performance standards are not met;
14. A preliminary discussion of biological resources-related facility closure measures;
15. Restoration and revegetation plan; and
16. A process for proposing plan modifications to the CPM and appropriate agencies for review and approval.

No additional revisions to the BRMIMP were made during Phase II of the Amended CECP.

3.7 BIO-7 Impact Avoidance Mitigation Measures

The following impact avoidance mitigation measures were implemented by the Project Owner:

1. Transmission line poles, access roads, pulling sites, and storage and parking areas were designed, installed, and will be maintained to avoid identified sensitive resources;
 - a. Although special-status plant and wildlife species and sensitive vegetation communities are known to occur within the vicinity of the Amended CECP site, they are generally

restricted to the estuarine and open water habitats associated with the Agua Hedionda Lagoon, Pacific Ocean, and the surrounding natural habitats.

- b. The Amended CECP site is characterized by a combination of developed areas, disturbed habitat, and ornamental landscaping. No special-status plant species were observed within the Amended CECP.
 - c. Special-status wildlife species were observed within vicinity the Amended CECP site during biological monitoring events. During Phase II, two great blue heron (*Ardea herodias*; California Department of Forestry [CDF] Sensitive [S]) nests were located in eucalyptus (*Eucalyptus* sp.) trees along the northwest corner of the West Laydown Area. The nests were buffered and successfully fledged both years. In addition, all avian nests were protected within no-disturbance buffers for species protected under the MBTA and California Fish and Wildlife Codes. Documentation was submitted in the MCRs.
2. Transmission lines and all electrical components were designed, installed, and will be maintained in accordance with the Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006 to reduce the likelihood of electrocutions of large birds;
 3. Bird flight diverters were installed on the overhead transmission lines (230- and 138-kV) to reduce the likelihood of bird collision with power lines;
 - a. An Avian Management Plan was developed for the Amended CECP and submitted to CEC CPM and was implemented on-site.
 4. Eliminate from landscaping plans any List A California exotic pest plants of concern as defined by the California Exotic Pest Plant Council;
 - a. The bio-swale and landscaped berm were revegetated with a native seed mix and plantings. The seed mix was submitted to the CEC CPM.
 5. Prescribe a road sealant that is non-toxic to wildlife and plants; and
 - a. Roads were paved and non-toxic soils binders were used on the West Laydown Area.
 6. Facility lighting was designed, installed, and will be maintained to prevent side casting of light toward wildlife habitat (i.e., Agua Hedionda Lagoon); obstruction lighting shall be white flashing lights unless specifically prohibited by FAA.
 - a. In addition, bike spikes were installed on some of the perimeter lighting to reduce perching opportunities within the Amended CECP.

Pre-construction surveys, biological monitoring events, and clearance surveys were conducted for the Amended CECP and the documentation was submitted to the CEC CPM.

3.8 BIO-8 Mitigation Management to Avoid Harassment or Harm

The Project Owner implemented the following measures to manage its construction site (and related facilities) in a manner to avoid or minimize impacts to local biological resources:

1. Installed temporary fencing in compliance with the BRMIMP and provide wildlife escape ramps for construction areas that contain steep-walled holes or trenches if outside an approved, permanent exclusionary fence;
2. Ensured that all food-related trash was disposed of in closed containers and removed at least once a week. In addition, the Designated Biologist and/or Biological Monitors removed any observed food-related trash from the project area during the monitoring events;

3. Prohibited the feeding of wildlife by staff and subcontractors;
4. Prohibited non-security-related firearms or weapons on site;
5. Prohibited pets on site;
6. It was not feasible to avoid work between March 1 and August 15 to avoid impacts to birds protected under the Migratory Bird Treaty Act. Weekly and on-call monitoring were conducted for nesting birds within the Amended CECP site during the nesting season.
 - a. If an active nest was discovered, the Designated Biologist or Biological Monitors established an appropriate buffer zone (in which construction activities are not allowed) to avoid disturbance in the vicinity of the nest.
 - b. Construction activities did not commence until the Designated Biologist or Biological Monitors determined that the nestlings have fledged or that construction activities would no longer affect adults or newly fledged young;
7. All inadvertent deaths of sensitive species were reported to the Designated Biologist and/or Biological Monitor, who notified CDFW or USFWS, as appropriate;
 - a. A deceased double-crested cormorant (*Phalacrocorax auratus*; California Department of Fish and Wildlife [CDFW] Watch List [WL]) was observed near the Cannon Substation. The death was not project-related but was reported to CDFW and included in an MCR.
8. The use of rodenticides and herbicides in the project area was minimized to the maximum extent feasible.

Pre-construction surveys, biological monitoring, vegetation clearance surveys, and on-call monitoring was conducted for the Amended CECP. All documentation was submitted to the CEC CPM.

4. MODIFICATION TO MITIGATION MEASURES

The COCs were adhered to during Phase I and Phase II of the Amended CECP. All biological compliance monitoring was documented in the MCRs and submitted to CEC CPM. Two modifications to the mitigation measures were made during the Amended CECP Phase I and Phase II. No additional modifications were required.

4.1 Phase I Modification

During tank demolition, several active house finch (*Haemorhous mexicanus*) nests were found within Tank 7, which was causing a significant delay in the demolition and subsequent construction schedule. The Project Owner requested a Special Purpose – Miscellaneous Permit (permit) through the United States Fish and Wildlife (USFWS) to remove all active house finch nests, eggs, and nestlings within Tank 7. All nests and eggs were buried on-site as specified in the permit. The nestlings were transported to a local wildlife care facility for rearing and eventual release. Documentation of the active house finch nest removal was provided to the CEC CPM and USFWS.

4.2 Phase II Modification

One active mourning dove (*Zenaida macroura*) nest was found on Unit 9 within the Amended CECP. The Project Owner requested a Special Purpose – Miscellaneous Permit from the USFWS to remove the active mourning dove nest and allowed for the operation of Unit 9. The nest removal avoided any further scheduling delays, which could have affected future electric grid reliability and public safety. The nest and eggs were buried on-site as specified in the permit. Documentation of the active house finch nest removal was provided to the CEC CPM and USFWS.

5. OUTSTANDING MITIGATION AND MONITORING ITEMS

There are no outstanding construction-related mitigation and monitoring items that remain at the Amended CECP. For the purposes of this Construction Termination Report, those duties and requirements are considered fulfilled. The Designated Biologist duties will continue through operation and closure activities per associated COCs. Final site photographs are included in Appendix C.

6. REFERENCES

California Department of Fish and Wildlife (CDFW). California Natural Diversity Database (CNDDDB). November 2018. Special Animals List. Periodic publication. 67 pp.

California Energy Commission (CEC). 2015. Presiding Member's Proposed Decision on the Carlsbad Energy Center Project dated June 2015. Docket Number 07 - AFC - 06.

Carlsbad Energy Center, LLC. 2007. Application for Certification for Carlsbad Energy Center Project. Submitted to the California Energy Commission on September 11, 2007.

FIGURE



Legend

- Demo and Construction Worker Access
- Amended CECP Site Boundary
- Encina Power Station Site

Figure 1
 Site Location Map
 Carlsbad Energy Center Project
 San Diego County, CA
 October, 2016

APPENDIX A BIOLOGICAL RESOURCES COMPLIANCE MONITORING LOG

**AMENDED CARLSBAD ENERGY CENTER PROJECT
Phase II**

**BIOLOGICAL RESOURCES
COMPLIANCE MONITORING LOG**

Report Number	1901-01	Date of Report	1/22/2019
Compliance Monitor	Megan Gleason (Biological Monitor, ERM)		
Site Location	ACECP site and access roads	Construction Activity	Construction Site: NRG construction activity. West Laydown Area: Construction activity.
Compliance Level	Acceptable	Weather	Temperature: Start 45°F End 56°F Wind: 3-5 mph; Cloud cover: 100%; Precip: 10%
<p>Observation Notes: Biological Monitor, Megan Gleason (ERM), conducted the following compliance monitoring at the ACECP site on January 11, 2019 from 06:45 to 11:45.</p> <ul style="list-style-type: none"> • Biological monitoring at the Construction Site and West Laydown Area locations. • All activities were in compliance with applicable mitigation measures. <p>The following were observed and discussed in detail:</p> <p><u>Special-Status Species</u></p> <ul style="list-style-type: none"> • No special-status species were observed during the monitoring event. <p><u>Construction Site Activity</u></p> <ul style="list-style-type: none"> • NRG construction activities are in the final stages of completion (Photo 1). • Office trailers in the parking area were emptied and actively being removed from the site (Photo 2). • Staged equipment and trailers have been removed from the Construction Site (Photo 3) and were either placed in the parking area for storage or removed from the site (Photo 4). • The Pump Station was surveyed for biological constraints and none were identified (Photo 5). • The bio-swale in the northeastern corner of the project site was surveyed for biological constraints. No biological constraints were observed (Photo 6). • The Cannon Substation was surveyed, and no biological constraints were identified (Photo 7). • The fence line near the revegetated berm will be replaced. The area was surveyed prior fence replacement (Photo 8). No biological constraints were identified. <p><u>West Laydown Area Activity</u></p> <ul style="list-style-type: none"> • Activity in the west laydown area has been completed. The ground has been leveled and there is no longer a guard on the west side of the tracks for crossing. No biological constraints were identified (Photo 10). 			
<p>Wildlife Species Observed:</p> <p>American bushtit (<i>Psaltriparus minimus</i>), American crow (<i>Corvus brachyrhynchos</i>), Anna's hummingbird (<i>Calypte anna</i>), black-chinned hummingbird (<i>Archilochus alexandri</i>), black phoebe (<i>Sayornis nigricans</i>), California towhee (<i>Melospiza crissalis</i>), house finch (<i>Haemorhous mexicanus</i>), northern shoveler (<i>Anas clypeata</i>), Say's phoebe (<i>Sayornis saya</i>), song sparrow (<i>Melospiza melodia</i>), western fence lizard (<i>Sceloporus occidentalis</i>), wrenit (<i>Chamaea fasciata</i>), and yellow-rumped warbler (<i>Setophaga coronate</i>).</p>			



Photo 1: NRG construction is in the final stages of completion. *Photo taken 1/11/19, facing northeast.*



Photo 2: Office trailers were emptied and removed from the parking lot. *Photo taken 1/11/19, facing north.*



Photo 3. Stored equipment within the Construction Site has been removed as construction is nearing completion. *Photo taken 1/11/19, facing southeast.*



Photo 4. Staged equipment was being moved from the Construction Site to the parking area. *Photo taken 1/11/19, facing east.*



Photo 5. No biological constraints were observed at the Pump Station or surrounding areas. *Photo taken 1/11/19, facing southwest.*



Photo 6. Northern shovelers were observed wading in the bio-swale in the northeast corner of the project. *Photo taken 1/11/19, facing north.*



Photo 7. The Canon Substation was surveyed for biological constraints and none were identified. *Photo taken 1/11/19, facing south.*



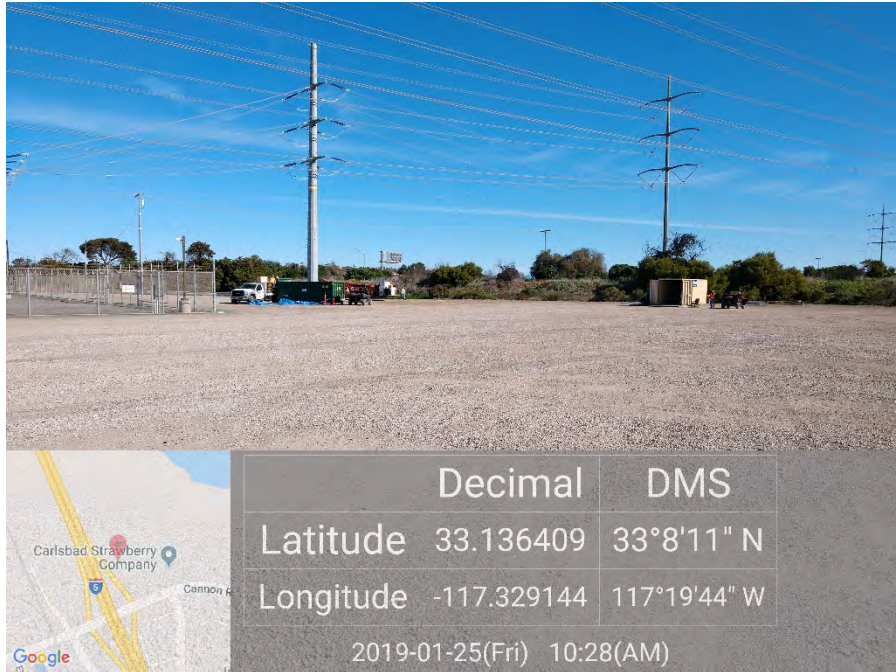
Photo 8. Some vegetation was removed for new fence line installation. *Photo taken 1/11/19, facing north.*



Photo 9. Construction has been completed in the West Laydown Area. *Photo taken 1/11/19, facing west.*

APPENDIX B FINAL SITE PHOTOGRAPHS

Photo 1



Location	Amended CECP site	Description	Overview of the old craft parking lot.
-----------------	-------------------	--------------------	--

Photo 2



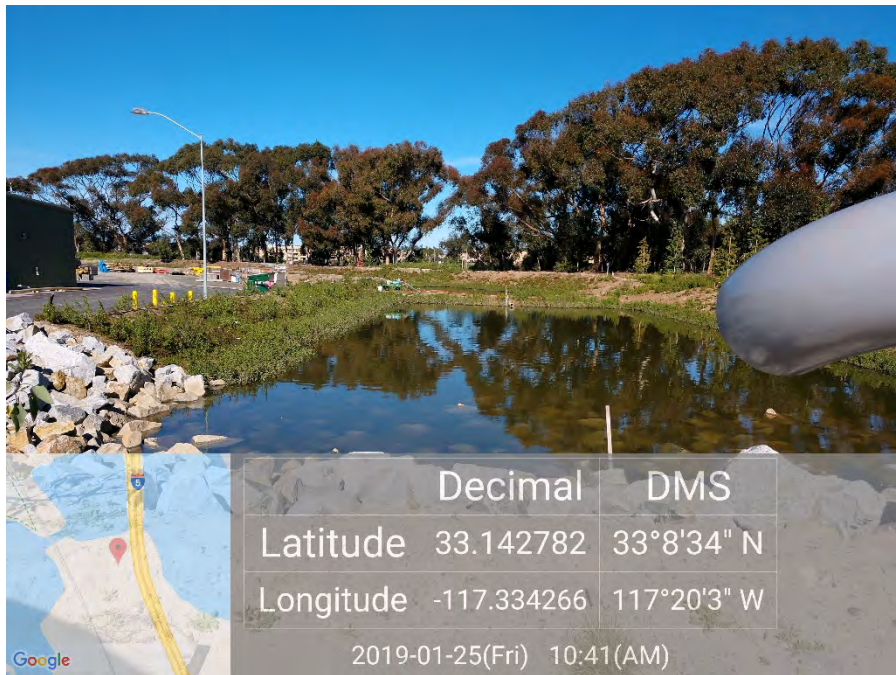
Location	Amended CECP site	Description	Overview of the Amended CECP site.
-----------------	-------------------	--------------------	------------------------------------

Photo 3



Location	Amended CECP site	Description	Overview of the Amended CECP site.
-----------------	-------------------	--------------------	------------------------------------

Photo 4



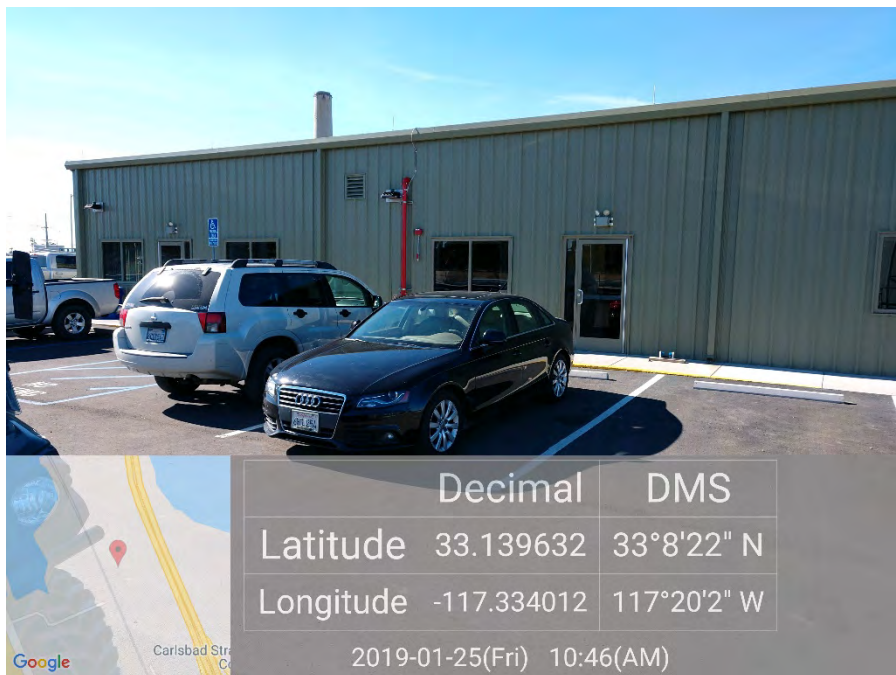
Location	Amended CECP site	Description	Overview of the bio-swale, within the northeast corner of the site.
-----------------	-------------------	--------------------	---

Photo 5



Location	Amended CECP site	Description	Overview of the revegetated berm on the eastern side of the site.
-----------------	-------------------	--------------------	---

Photo 6



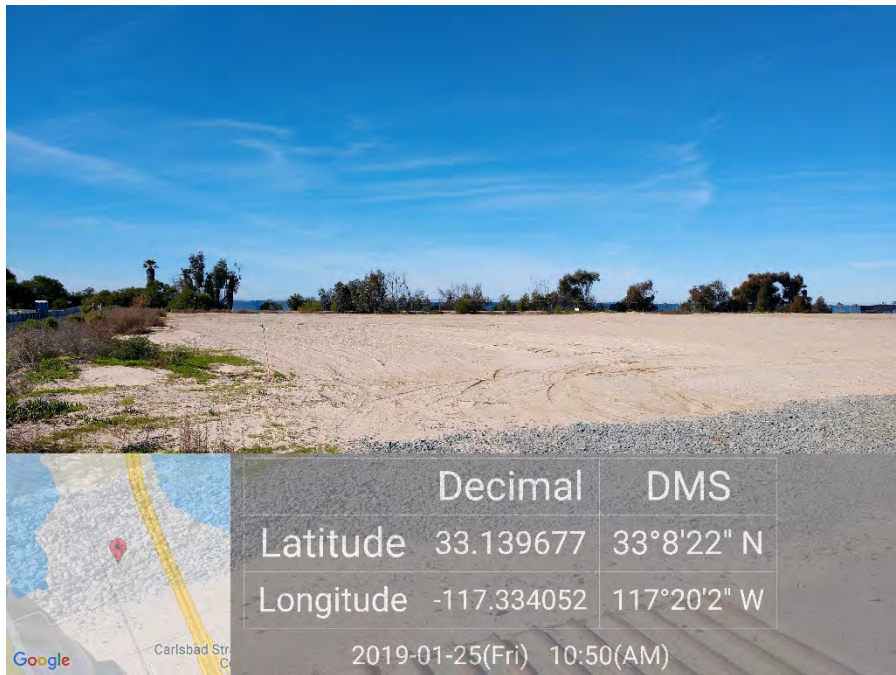
Location	Amended CECP site	Description	Overview of the new administration building within the site.
-----------------	-------------------	--------------------	--

Photo 7



Location	Amended CECP site	Description	Overview of the Amended CECP site.
-----------------	-------------------	--------------------	------------------------------------

Photo 8



Location	Amended CECP site	Description	Overview of the decommissioned West Laydown Area.
-----------------	-------------------	--------------------	---

APPENDIX C

APPENDIX C CONDITIONS OF CERTIFICATION

APPENDX C

Biological Resources Conditions of Certification for the Amended Carlsbad Energy Center Project

Conditions of Certification		Comments
<p>BIO-1 Designated Biologist</p>	<p>The project owner shall assign a Designated Biologist to the project. The project owner shall submit the resume of the proposed Designated Biologist, with at least three references and contact information, to the compliance project manager (CPM) for approval.</p> <p>The Designated Biologist must at least meet the following minimum qualifications:</p> <ol style="list-style-type: none"> 1. Bachelor’s degree in biological sciences, zoology, botany, ecology, or a closely related field; and 2. Three years of experience in field biology or current certification from a nationally recognized biological society, such as The Ecological Society of America or The Wildlife Society; and 3. At least one year of field experience with biological resources found in or near the project area. <p>In lieu of the above requirements, the resume shall demonstrate to the satisfaction of the CPM, that the proposed or alternate Designated Biologist has the appropriate training and background to implement effectively the applicant-proposed mitigation measures and conditions of certification.</p> <p>Verification: The project owner shall submit the specified information at least 90 days prior to the start of any site (or related facilities) mobilization. No site or related facility activities shall commence until an approved Designated Biologist is available to be on site.</p> <p>If a Designated Biologist needs to be replaced, the specified information of the proposed replacement must be submitted to the CPM at least 10 working days prior to the termination or release of the preceding designated biologist. In an emergency, the project owner shall immediately notify the CPM to discuss the qualifications and approval of a short-term replacement while a permanent Designated Biologist is proposed to the CPM for consideration.</p>	<p>The Designated Biologist will be ERM's Senior Biologist, Melissa Fowler. Ms. Fowler was approved by the CEC to fulfill this role.</p> <p>The project owner has ensured that the Designated Biologist performed all duties during site (or related facilities) mobilization, ground disturbance, grading, and construction. For the purposes of this Construction Termination Report, those duties and requirements are considered fulfilled. The Designated Biologist duties will continue through operation and closure activities per associated COCs.</p>

APPENDX C

Biological Resources Conditions of Certification for the Carlsbad Energy Center Project

Conditions of Certification		Comments
<p>BIO-2 Designated Biologist Duties</p>	<p>The project owner shall ensure that the Designated Biologist performs the following during any site (or related facilities) mobilization, ground disturbance, grading, construction, operation, and closure activities. The Designated Biologist may be assisted by the approved biological monitor(s), but remains the contact for the project owner and CPM. The designated biologist shall:</p> <ol style="list-style-type: none"> 1. Advise the project owner’s construction and operation managers on the implementation of the biological resources conditions of certification; 2. Consult on the preparation of the Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP), to be submitted by the project owner; 3. Be available to supervise, conduct, and coordinate mitigation, monitoring, and other biological resource compliance efforts, particularly in areas requiring avoidance or containing sensitive biological resources, such as wetlands and special-status species or their habitat; 4. Clearly mark sensitive biological resource areas and inspect these areas at appropriate intervals for compliance with regulatory terms and conditions; 5. 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; 6. Notify the project owner and the CPM of any non-compliance with any biological resources condition of certification; 7. Respond directly to inquiries of the CPM regarding biological resource issues; 8. Maintain written records of the tasks specified above and those included in the BRMIMP. Summaries of these records shall be submitted in the monthly compliance report and the annual report; and 9. Train the biological monitors as appropriate, and ensure their familiarity with the BRMIMP, Worker Environmental Awareness Program (WEAP) training, and all permits. <p>Verification: The Designated Biologist shall submit in the monthly compliance report to the CPM copies of all written reports and summaries that document biological resources activities. If actions may affect biological resources during operation, a Designated Biologist shall be available for monitoring and reporting. During project operation, the Designated Biologist shall submit record summaries in the annual compliance report unless his/her duties are ceased as approved by the CPM.</p>	<p>The project owner has ensured that the Designated Biologist performed all duties during site (or related facilities) mobilization, ground disturbance, grading, and construction. For the purposes of this Construction Termination Report, those duties and requirements are considered fulfilled. The Designated Biologist duties will continue through operation and closure activities per associated COCs.</p>

APPENDX C

Biological Resources Conditions of Certification for the Carlsbad Energy Center Project

Conditions of Certification		Comments
<p>BIO-3 Biological Monitor Qualifications</p>	<p>The project owner’s CPM-approved Designated Biologist shall submit the resume, at least three references, and contact information of the proposed biological monitor(s) to the CPM for approval. The resume shall demonstrate to the satisfaction of the CPM, the appropriate education and experience to accomplish the assigned biological resource tasks.</p> <p>Biological monitor(s) training by the Designated Biologist shall include familiarity with the conditions of certification, BRMIMP, WEAP, and all permits.</p> <p>Verification: The project owner shall submit the specified information to the CPM for approval at least 30 days prior to the start of any site (or related facilities) mobilization. The Designated Biologist shall submit a written statement to the CPM confirming that individual biological monitor(s) has been trained including the date when training was completed. If additional biological monitors are needed during construction, the specified information shall be submitted to the CPM for approval 10 days prior to their first day of monitoring activities.</p>	<p>Qualifications of Biological Monitors for the Amended CECP were submitted to the CEC for review and approval during project construction.</p>
<p>BIO-4 Designated Biologist and Biological Monitor Authority</p>	<p>The project owner’s construction and operation manager shall act on the advice of the Designated Biologist and biological monitor(s) to ensure conformance with the biological resources conditions of certification.</p> <p>If required by the Designated Biologist and biological monitor(s), the project owner’s construction and operation manager shall halt all site mobilization, ground disturbance, grading, construction, and operation activities in areas specified by the Designated Biologist.</p> <p>The Designated Biologist shall:</p> <ol style="list-style-type: none"> 1. 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; 2. Inform the project owner and the construction and operation manager when to resume activities; and 3. Notify the CPM if there is a halt of any activities and advise the CPM of any corrective actions that have been taken, or will be instituted, as a result of the work stoppage. <p>If the Designated Biologist is unavailable for direct consultation, the lead biological monitor shall act on behalf of the Designated Biologist.</p> <p>Verification: The project owner shall ensure that the Designated Biologist or biological monitor notifies the CPM immediately (and no later than the following morning of the incident, or Monday morning in the case of a weekend) of any non-compliance or a halt of any site mobilization, ground disturbance, grading, construction, and operation activities. The project owner shall notify the CPM of the circumstances and actions being taken to resolve the problem.</p> <p>Whenever corrective action is taken by the project owner, a determination of success or failure will be made by the CPM within 5 working days after receipt of notice that corrective action is completed, or the project owner will be notified by the CPM that coordination with other agencies will require additional time before a determination can be made.</p>	<p>For the purposes of this Construction Termination Report, those duties and requirements are considered fulfilled for project construction.</p> <p>The Designated Biologist duties will continue through operation and closure activities per associated COCs.</p>

APPENDX C

Biological Resources Conditions of Certification for the Carlsbad Energy Center Project

Conditions of Certification		Comments
<p>BIO-5 Worker Environmental Awareness Program</p>	<p>The project owner shall develop and implement a CPM-approved Worker Environmental Awareness Program (WEAP) in 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.</p> <p>The WEAP must:</p> <ol style="list-style-type: none"> 1. Be developed by or in consultation with the Designated Biologist and consist of an on-site or training center presentation in which supporting written material and electronic media are made available to all participants; 2. Discuss the locations and types of sensitive biological resources on the project site and adjacent areas; 3. Present the reasons for protecting these resources; 4. Present the meaning of various temporary and permanent habitat protection measures; 5. Identify whom to contact if there are further comments and questions about the material discussed in the program; and 6. Include a training acknowledgment form to be signed by each worker indicating that he/she received training and shall abide by the guidelines. <p>The specific program can be administered by a competent individual(s) acceptable to the Designated Biologist.</p> <p>Verification: At least 60 days prior to the start of any project-related ground disturbing activities, the project owner shall provide to the CPM two copies of the proposed WEAP and all supporting written materials and electronic media prepared or reviewed by the Designated Biologist and a resume of the person(s) administering the program.</p> <p>The project owner shall provide in the monthly compliance report the number of persons who have completed the training in the prior month and a running total of all persons who have completed the training to date. At least 10 days prior to site (and related facilities) mobilization, the project owner shall submit two copies of the CPM-approved materials.</p> <p>The signed training acknowledgement forms from construction shall be kept on file by the project owner for a period of at least 6 months after the start of commercial operation.</p> <p>During project operation, signed statements for active project operational personnel shall be kept on file for 6 months following the termination of an individual’s employment.</p>	<p>The WEAP was reviewed and approved by the CEC. WEAP will be provided on an annual basis during operations.</p>

APPENDX C

Biological Resources Conditions of Certification for the Carlsbad Energy Center Project

Conditions of Certification		Comments
<p>BIO-6 Biological Resources Mitigation Implementation and Monitoring Plan</p>	<p>The project owner shall submit two copies of the proposed BRMIMP to the CPM (for review and approval) and to CDFW and USFWS (for review and comment) and shall implement the measures identified in the approved BRMIMP.</p> <p>The BRMIMP shall be prepared in consultation with the Designated Biologist and shall identify:</p> <ol style="list-style-type: none"> 1. All biological resource mitigation, monitoring, and compliance measures proposed and agreed to by the project owner; 2. All project owner-proposed mitigation measures presented in the application for certification; 3. All biological resource conditions of certification in the Final Commission Decision to avoid or mitigate impacts; 4. All biological resource mitigation, monitoring and compliance measures required in other state agency terms and conditions, such as those provided in the Regional Water Quality Control Board permits; 5. All biological resource mitigation, monitoring, and compliance measures required in local agency permits, such as site grading and landscaping requirements; 6. All sensitive biological resources to be impacted, avoided, or mitigated by project construction, operation, and closure; 7. All required mitigation measures for each sensitive biological resource; 8. A detailed description of measures that shall be taken to avoid or mitigate temporary disturbances from construction activities; 9. all locations on a map, at an approved scale, of sensitive biological resource areas subject to disturbance and areas requiring temporary protection and avoidance during construction; 10. Aerial photographs, at an approved scale, of all areas to be disturbed during project construction activities — one set prior to any site (and related facilities) mobilization disturbance and one set subsequent to completion of project construction. Include planned timing of aerial photography and a description of why times were chosen; 11. Duration for each type of monitoring and a description of monitoring methodologies and frequency; 12. Performance standards to be used to help decide if/when proposed mitigation is or is not successful; 13. All performance standards and remedial measures to be implemented if performance standards are not met; 14. A preliminary discussion of biological resources-related facility closure measures; 15. Restoration and revegetation plan; and 16. A process for proposing plan modifications to the CPM and appropriate agencies for review and approval. <p>Verification: The project owner shall provide the specified document at least 60 days prior to start of any project-related ground disturbing activities.</p>	<p>The project owner has ensured that the Designated Biologist performed all duties during site (or related facilities) mobilization, ground disturbance, grading, and construction.</p> <p>For the purposes of this Construction Termination Report, those duties and requirements are considered fulfilled. The Designated Biologist duties will continue through operation and closure activities per associated COCs.</p>

APPENDX C

Biological Resources Conditions of Certification for the Carlsbad Energy Center Project

Conditions of Certification		Comments
<p>BIO-6, Cont. Biological Resources Mitigation Implementation and Monitoring Plan</p>	<p>The CPM will determine the BRMIMP’s acceptability within 45 days of receipt. If there are any permits that have not yet been received when the BRMIMP is first submitted, these permits shall be submitted to the CPM, the CDFW, and USFWS within 5 days of their receipt, and the BRMIMP shall be revised or supplemented to reflect the permit condition within ten days of their receipt by the project owner. Ten days prior to site (and related facilities) mobilization, the revised BRMIMP shall be resubmitted to the CPM.</p> <p>The project owner shall notify the CPM no less than five working days before implementing any modifications to the approved BRMIMP to obtain CPM approval.</p> <p>Any changes to the approved BRMIMP must also be approved by the CPM in consultation with CDFW, the USFWS, and appropriate agencies to ensure no conflicts exist.</p> <p>Implementation of BRMIMP measures will be reported in the monthly compliance reports by the designated biologist (i.e., survey results, construction activities that were monitored, species observed). Within 30 days after completion of project construction, the project owner shall provide to the CPM, for review and approval, a written construction closure report identifying which items of the BRMIMP have been completed; a summary of all modifications to mitigation measures made during the project’s site mobilization, ground disturbance, grading, and construction phases; and which mitigation and monitoring items are still outstanding.</p>	
<p>BIO-7 Impact Avoidance Mitigation Features</p>	<p>Any time the project owner modifies or finalizes the project design, all feasible measures shall be incorporated that avoid or minimize impacts to the local biological resources. The project owner shall:</p> <ol style="list-style-type: none"> 1. design, install, and maintain transmission line poles, access roads, pulling sites, and storage and parking areas to avoid identified sensitive resources; 2. design, install, and maintain transmission lines and all electrical components in accordance with the Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006 to reduce the likelihood of electrocutions of large birds; 3. install bird flight diverters on the overhead ground wires of proposed transmission lines (230- and 138-kV) to reduce the likelihood of bird collision with power lines; if overhead ground wires are not installed, bird flight diverters shall be placed on the conductors. 4. eliminate from landscaping plans any List A California exotic pest plants of concern as defined by the California Exotic Pest Plant Council; 5. prescribe a road sealant that is non-toxic to wildlife and plants; and 6. design, install, and maintain facility lighting to prevent side casting of light toward wildlife habitat (i.e., Agua Hedionda Lagoon); obstruction lighting shall be white flashing lights unless specifically prohibited by the FAA. <p>Verification: All mitigation measures and their implementation methods shall be included in the BRMIMP. Implementation of the measures shall be reported in the monthly compliance reports by the Designated Biologist. Within 30 days after completion of project construction, the project owner shall provide to the CPM, for review and approval, a written construction termination report identifying how measures have been completed.</p>	<p>The project owner has ensured that the Designated Biologist performed all duties during site (or related facilities) mobilization, ground disturbance, grading, and construction.</p> <p>For the purposes of this Construction Termination Report, those duties and requirements are considered fulfilled. The Designated Biologist duties will continue through operation and closure activities per associated COCs.</p>

APPENDIX C

Biological Resources Conditions of Certification for the Carlsbad Energy Center Project

Conditions of Certification		Comments
<p>BIO-8 Mitigation Management to Avoid Harassment or Harm</p>	<p>The project owner shall implement the following measures to manage its construction site (and related facilities) in a manner to avoid or minimize impacts to local biological resources:</p> <ol style="list-style-type: none"> 1. Install temporary fencing and provide wildlife escape ramps for construction areas that contain steep-walled holes or trenches if outside an approved, permanent exclusionary fence. The temporary fence shall be hardware cloth or similar material that is approved by USFWS and CDFW; 2. Ensure that all food-related trash is disposed of in closed containers and removed at least once a week; 3. Prohibit feeding of wildlife by staff and subcontractors; 4. Prohibit non-security-related firearms or weapons on site; 5. Prohibit pets on site; 6. Avoid work between March 1 and August 15 to avoid impacts to birds protected under the Migratory Bird Treaty Act. <ol style="list-style-type: none"> A. If this is not feasible, a survey shall be conducted for nesting birds within the project area. B. Should an active nest be discovered, the Designated Biologist or biological monitor shall establish an appropriate buffer zone (in which construction activities are not allowed) to avoid disturbance in the vicinity of the nest. <ol style="list-style-type: none"> i. Construction activities shall not commence until the Designated Biologist or biological monitor has determined that the nestlings have fledged or that construction activities will not affect adults or newly fledged young; OR ii. The Designated Biologist or biological monitor shall develop a monitoring plan that permits the activity to continue in the vicinity of the nest while monitoring nesting activities to ensure that nesting birds are not disturbed. 7. Report all inadvertent deaths of sensitive species to the biological monitor, who will notify CDFW or USFWS, as appropriate; and 8. Minimize use of rodenticides and herbicides in the project area. <p>Verification: All mitigation measures and their implementation methods shall be included in the BRMIMP. Implementation of the measures shall be reported in the monthly compliance reports by the Designated Biologist. Within 30 days after completion of project construction, the project owner shall provide to the CPM, for review and approval, a written construction termination report identifying how biological resource measures have been completed.</p>	<p>The project owner has ensured that the Designated Biologist performed all duties during site (or related facilities) mobilization, ground disturbance, grading, and construction.</p> <p>For the purposes of this Construction Termination Report, those duties and requirements are considered fulfilled. The Designated Biologist duties will continue through operation and closure activities per associated COCs.</p>