



# United States Department of the Interior



In Response Reply To:  
FWS/R8/CP-PP-MB

FISH AND WILDLIFE SERVICE  
Pacific Southwest Region  
2800 Cottage Way, Suite W-2606  
Sacramento, California 95825

January 16, 2013

Amy Baker  
Infrastructure Permitting & CEQA  
California Public Utilities Commission  
505 Van Ness Avenue  
San Francisco, CA 94102

Dear Ms. Baker:

The U.S. Fish and Wildlife Service (Service) has reviewed the San Diego Electric and Gas (SDG&E) East County Substation (ECO) Avian Protection Plan (APP), which included the project's Nesting Bird Management, Monitoring, and Reporting Plan (Nesting Bird Plan) as an appendix. The APP was prepared in accordance with the California Public Utilities Commission and the Bureau of Land Management (BLM)'s Environmental Impact Report/Environmental Impact Study (EIR/EIS) required Mitigation Measures (MM) for the East County Substation/Tule Wind/Energia Sierra Juarez Gen-Tie Projects; specifically MM BIO-10a and BIO-10b of the Mitigation Monitoring, Compliance, and Reporting Program (MMCRP) for the ECO project. Our review is in the context of our legal mandate and trust responsibility to maintain healthy migratory bird populations for the benefit of the American public pursuant to the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA).

The Service has worked cooperatively with SDG&E on the development of the ECO APP designed to avoid, minimize and monitor project impacts to migratory birds and eagles. Additionally, we coordinated closely with the California Department of Fish and Game in our review of the project's Nesting Bird Management Plan. The Service appreciates SDG&E's cooperation and willingness to continue coordinating with the Service to ensure that the monitoring methods will result in statistically valid data collection. The Service believes that the ECO APP and Nesting Bird Management Plan are appropriate in their adaptive management approach to avoid and minimize take of migratory birds and eagles.

Please be advised that the APP is not a surrogate permit, therefore it does not limit or preclude the Service from exercising its authority under any law, statute, or regulation, nor does it release any individual, company, or agency of its obligations to comply with Federal, State, or local laws, statutes, or regulations. If later deemed necessary, the APP could serve as the basis for an Eagle Conservation Plan and eagle permit application if deemed necessary. If you have any questions about this project, please contact Tom Dietsch at [Thomas\\_Dietsch@fws.gov](mailto:Thomas_Dietsch@fws.gov) or 760/431-9440, ext 214.

Sincerely,

Marie Strassburger  
Chief, Division of Migratory Birds and Habitat

cc: Amy Fesnock, Bureau of Land Management  
Kristie Reynolds, SDG&E  
Karen Goebel, Carlsbad Fish and Wildlife Office

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**SAN DIEGO GAS & ELECTRIC COMPANY  
EAST COUNTY SUBSTATION PROJECT  
AVIAN PROTECTION PLAN**

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**JANUARY 2013**

PREPARED BY:



PREPARED FOR:





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## **1 – INTRODUCTION**

This Avian Protection Plan (APP) describes the actions to be taken by San Diego Gas & Electric Company (SDG&E) to assure that avian protection measures are implemented to reduce bird mortalities from electrocution and collision during operation of the East County (ECO) Substation Project (Project). The Project involves the construction of a new 500/230/138 kilovolt (kV) ECO Substation; rebuild of the existing Boulevard Substation in a new location; and construction of an approximately 14-mile-long 138 kV transmission line, consisting of overhead and underground segments, to connect the two substations. This APP was prepared in accordance with Mitigation Measures (MM) BIO-10a and BIO-10b of the Mitigation Monitoring, Compliance, and Reporting Program (MMCRP) for the Project. Impact avoidance and minimization to nesting birds during the construction of the Project are addressed in the Nesting Bird Management, Monitoring and Reporting Plan (NBMMRP) for the Project, which is included as Appendix A: Nesting Bird Management, Monitoring and Reporting Plan.

## **2 – OBJECTIVES**

The purpose of this APP is to provide a description of measures that will be implemented by SDG&E to reduce impacts to birds associated with the operation of the Project. This Plan provides specific information for implementing the applicable MMs, as well as the means of monitoring the effectiveness of the APP. The management and reporting practices in this APP are intended to accomplish the following objectives:

- Reduce avian mortality resulting from electrocution and collisions with transmission wires, poles, and other Project facilities.
- Design transmission lines and poles in a manner that protects even the largest birds that may perch or roost on transmission lines or poles from electrocution.
- Document management plan actions and protective measures implemented.

## **3 – MITIGATION MEASURES**

The MMCRP for the Project includes two MMs that are aimed at reducing impacts to bird species from electrocution and collision with wires, transmission towers, and other Project facilities. The full descriptions of MM BIO-10a and BIO-10b are provided in the following subsections.

### **3.0 MITIGATION MEASURE BIO-10A**

MM BIO-10a requires that all transmission towers and lines are designed to conform to Avian Power Line Interaction Committee standards. MM BIO-10a states: “The Proposed Project shall implement recommendations by the Avian Power Line Interaction Committee (2006), which will protect raptors and other birds from electrocution. These measures are sufficient to protect even the largest birds that may perch or roost on transmission lines or towers from electrocution.” A description of the Project’s compliance with MM BIO-10a is discussed in Section 4.3 Construction Design.

### **3.1 MITIGATION MEASURE BIO-10B**

MM BIO-10b requires the development and implementation of a Project-specific APP. MM BIO-10b specifies that the Project “develop and implement an APP related to wire, transmission tower, and facilities impacts from electrocution and collision of bird species. An APP shall be developed jointly with the United States (U.S.) Fish and Wildlife Service (USFWS) and California Department of Fish and Game (CDFG) and shall provide the framework necessary for implementing a program to reduce bird mortalities and document management actions. The APP shall include the following: corporate policy, training, permit compliance, construction design standards, nest management, avian reporting system, risk assessment methodology, mortality reduction measures, avian enhancement options, quality control, public awareness, and key resources.”

## **4 – PLAN IMPLEMENTATION**

This section provides the framework necessary for implementing a program to reduce bird mortalities and to document avian protection and management actions during operation of the Project. The following plan implementation measures follow the APP guidelines from the Avian Power Line Interaction Committee (APLIC) and USFWS, and include each of the components required by MM BIO-10b.

### **4.0 CORPORATE POLICY**

SDG&E designs, constructs, and operates its electric facilities in a manner that avoids or minimizes potential impacts to sensitive species to the extent feasible. SDG&E follows avian protection procedures to reduce the potential for loss of raptors, waterfowl, and other migratory birds. The emphasis of these procedures is on prevention, documentation, and location of bird electrocutions. This is an ongoing proactive approach to protect a variety of bird species and to reduce the number of outages attributed to raptors and other birds that can occur throughout SDG&E’s service area. Implementation of avian protection procedures achieves several objectives, including the following:

- Compliance with federal and state laws regarding avian species
- Improvement of reliability and customer service
- Reduction of electrocution impacts to birds
- Data collection on bird electrocutions and bird-caused outages
- Identification of high-risk facilities
- Improvement of construction designs to reduce impacts to birds

### **4.1 TRAINING**

In addition to design and planning measures, SDG&E will continue to provide avian awareness programs for its personnel. Awareness programs may include the appropriate work practices necessary to effectively implement the APP and how to comply with applicable environmental laws and regulations. All construction, planning, and design personnel are encouraged to participate in specific awareness programs regarding avian protection measures.

SDG&E will periodically evaluate the effectiveness of its awareness programs and update them to incorporate new technologies, changes in industry standards, and feedback from personnel.

## **4.2 PERMIT COMPLIANCE**

Federal and state permits are required for activities that will impact species protected by the Migratory Bird Treaty Act (MBTA), Bald and Golden Eagle Protection Act (BGEPA), federal Endangered Species Act (ESA), and California Endangered Species Act (CESA). Special purpose or related permits are required for bird-management activities, such as temporary possession, salvage/disposal, scientific collection, and nest relocation. SDG&E personnel will work with a permitted and/or approved biologist or obtain guidance from the appropriate resource agency concerning activities relating to protected species.

SDG&E personnel and contractors are instructed to not capture or restrain injured birds. The USFWS and CDFG will be contacted for guidelines and recommendations if an injured protected bird species (such as an eagle, endangered, threatened or fully-protected species) is encountered. All threatened, endangered, state fully protected, and eagle species that are found deceased will be left at the location discovered and SDG&E will notify USFWS and CDFG. SDG&E personnel will file an internal Avian Mortality Report, which will be kept on file with SDG&E Environmental Services. Instructions for filling out and submitting the Avian Mortality Report Form during construction of the Project are described in Section 4.5 Avian Reporting System.

Under no circumstances should any Project personnel move, remove, or possess the carcass of a deceased eagle, endangered, threatened or fully-protected species, unless specifically instructed by the USFWS, the CDFG, or required due to safety concerns (e.g., ongoing outages or fire potential by leaving the carcass on the wire). It is a violation of federal and state law to take (i.e., kill, transport, sell, or possess) a protected animal species without proper permits or authorization. For permit compliance concerning nest management actions, refer to Section 4.4 Nest Management.

## **4.3 CONSTRUCTION DESIGN**

Construction of the 138 kV transmission line from the ECO Substation to the rebuilt Boulevard Substation will result in the installation of approximately 7.14 miles of overhead line with approximately 55 steel poles (SPs). Additional 69 kV SPs will also be installed to connect the existing Transmission Line 6931 to the rebuilt Boulevard substation. In addition, the existing Southwest Powerlink (SWPL) 500 kV transmission line will be looped in and out of the ECO Substation, and will include the installation of approximately six structures, each comprised of three poles, east of the ECO Substation fence. The presence of new poles and overhead transmission line may cause potential impacts to birds from electrocution and collision. Approximately 49 percent of the proposed 138 kV transmission line will be constructed in an underground configuration (approximately 6.84 miles of the total 14 miles). The installation of underground conduit will substantially reduce the risk of collision and electrocution impacts to birds.

Avoidance and minimization measures of the Project include construction of all Project transmission poles and lines following APLIC guidelines. APLIC summarizes the research that



has been conducted to address bird electrocution and collision mortality associated with electric transmission and distribution systems (2006). This research has prompted federal and state resource agencies—in concert with the electric utility industry—to adopt various measures for the structural design and siting of new lines that avoid or minimize bird electrocutions and collisions. SDG&E has been an APLIC member for more than a decade and has adopted avian protection measures, as described in this APP.

#### **4.3.0 Electrocution**

Project avoidance and minimization measures are sufficient to protect from electrocution even the largest birds that may perch or roost on transmission lines or structures. Avian electrocution can occur when a bird makes contact with two energized phase conductors or an energized conductor and grounded hardware. This can occur when the horizontal separation between these elements is less than the wrist-to-wrist (flesh-to-flesh) distance of a bird's wingspan, or where vertical separation is less than a bird's length from head-to-foot. Line separations for the Project exceed the suggested practices recommended by APLIC to avoid electrocution incidents. A key standard for avoidance of bird electrocutions is a minimum spacing of 60 inches between energized phases (i.e., energized electrical conductors) or between a phase and grounded elements (pole, crossarm, brackets, etc.). The 138 kV transmission line will be constructed with energized components (e.g., conductors) and grounded structures in excess of 60 inches apart, effectively preventing local or migratory bird species from extending their maximum wingspan to simultaneously contact a positive conductor and a ground wire to complete the electrical circuit. The majority of raptor electrocutions are caused by lines that are energized at voltage levels less than 69 kV (APLIC 2006). As previously described, the Project's transmission line voltage level is 138 kV.

#### **4.3.1 Collision**

The key requirement for minimizing the risk of collision mortality is the siting of new lines to avoid major bird flight paths. As discussed in Section 4.6 Risk Assessment and Mortality Reduction, the Project area is not located within any migration corridors or bird flight paths. In addition, the majority of the 138 kV transmission line will generally parallel the existing SWPL 500 kV transmission line, and will therefore not introduce a new transmission corridor in the vicinity. The installation of the new line will not significantly increase the risk of collision.

### **4.4 NEST MANAGEMENT**

Numerous bird species are known to nest on or in transmission structures, poles, and substations. Although electrocution of birds that nest on transmission poles/structures is infrequent, bird nests can cause operational problems to an electric system, such as an outage, when the nest materials span the distance between the conductors/phases. SDG&E will comply with all federal and state laws and regulations regarding nest management activities during operation of the Project. The species of the nest occupant and the status of its nest will be identified before taking any management actions. The nest status is defined as active for nests that contain egg(s) or young. Unoccupied nests include old and abandoned nests. The following subsections describe nest management procedures based on the status of the nest and the federal and state designations of the bird species. For specific protocols regarding the management of nesting birds during construction, refer to Appendix A: Nesting Bird Management, Monitoring and Reporting Plan.

#### **4.4.0 Non-Threatened/Endangered or Non-Eagle Species**

All occupied nests are protected under the MBTA and California Fish and Game Code Sections 3503 and 3503.5. Permits may be required by the USFWS and the CDFG before taking action on, or managing, any occupied nest. Active nests that do not pose a threat to reliability of the electric line or create a potential fire risk will be left in place. Unoccupied nests encountered during operations and maintenance activities can be removed if needed to facilitate maintenance or repair. If nest removal is necessary, it will be accomplished during the non-breeding season to the extent feasible. The breeding season for most birds is between February 1 and August 31, and as early as January 1 for some raptors.

A memorandum from the USFWS on nest management and nest destruction issued on April 15, 2003, states that the MBTA does not contain any rule against the destruction of an unoccupied migratory bird nest alone (without birds or eggs), provided that no possession occurs during the destruction. In addition, a federal permit is not required to remove or manipulate an unoccupied nest for a non-threatened/endangered or non-eagle species during the non-breeding season. SDG&E personnel will consult with SDG&E Environmental Services prior to nest removal actions, and nest removal locations will be documented.

#### **4.4.1 Raptors**

Active raptor nests that do not pose a threat to reliability of the electric line or create a potential fire risk will be left in place. If a specific nest poses a threat to operations, or may be a problem in the future, then management action may be necessary. Nest management actions will be accomplished during the non-breeding season to the extent feasible. If it is necessary to remove an existing raptor nest during the breeding season, a qualified biologist will survey the nest prior to removal to determine if it is active. The protocol to be used to determine nesting status of raptor nests located on or near existing facilities and the procedures that will be implemented by SDG&E's approved avian biologists to determine if a raptor nest is, or is not, currently in use are provided in Attachment A: Raptor Nesting Protocol. If determined to be unoccupied, the nest will promptly be dismantled and removed from the site under the supervision of a qualified biologist. If the nest is determined to be active, operation and maintenance activities may be delayed until after the nest is no longer active. If this is not feasible and the activity is considered an emergency, then the removal of the nest, eggs, and/or chicks may be required. An emergency is defined as the immediate potential for fire or other safety hazards, including the potential effect on operational reliability. In such cases, SDG&E Environmental Services will contact a permitted raptor rehabilitator. Section 4.9 Key Resources provides relevant contact information. The appropriate permits will be obtained prior to removing nests of raptors, and SDG&E will conduct nest removal under the direction of the raptor rehabilitator and the USFWS.

#### **4.4.2 Threatened/Endangered, State Fully Protected, or Eagle Species**

Coordination with the USFWS and/or the CDFG is required prior to any unoccupied or active nest removal for threatened or endangered bird species. SDG&E will obtain appropriate permits or conduct consultation as appropriate from the USFWS and/or CDFG if nest removal for a threatened or endangered species is necessary. Nests of species that are listed under the BGEPA have additional protections and unoccupied eagle nests cannot be removed.

#### **4.5 AVIAN REPORTING SYSTEM**

When a fault/outage occurs within the electric system, SDG&E will send out personnel—known as “troubleshooters”—to assess the potential situation and repair any damage in order to restore power. Patrolling of the lines can occur via helicopter or on the ground. Avian electrocution or collision is one potential cause for an outage. If a dead or injured<sup>1</sup> bird is found near or on SDG&E equipment and facilities (e.g., poles, lines, substations), an Avian Mortality Report Form will be completed and forwarded to SDG&E’s Environmental Services department and filed internally. The report will include a description of where the bird made contact with the facility, a potential identification, and photograph. If an eagle or threatened/endangered species is found, then Environmental Services will notify the USFWS and/or the CDFG, as soon as species identification is confirmed and/or within 24 hours of the discovery. Special arrangements to preserve the remains will be made under the direction of the agencies. The Avian Reporting System, including how to fill out the Avian Mortality Report and who to call at SDG&E Environmental Services, is discussed within SDG&E’s environmental awareness programs, as previously described in Section 4.1 Training.

Through the avian reporting system, dead or injured bird records can indicate specific problem areas where more in-depth analysis is necessary. SDG&E investigates problem areas to determine whether corrective measures are required. Agency coordination will be initiated as needed.

#### **4.6 RISK ASSESSMENT AND MORTALITY REDUCTION**

A risk assessment was conducted during the preparation of the joint Environmental Impact Report/Environmental Impact Statement (EIR/EIS) for the ECO Substation, Tule Wind, and ESJ Gen-Tie projects by evaluating data on areas of high avian use, avian mortality, nesting, established flyways, adjacent wetlands, prey populations, and other factors (2011).

The Pacific Flyway is a known migratory pathway for birds in the western U.S. In San Diego County, the Pacific Flyway is generally split into a coastal route and an interior route. The coastal Pacific Flyway is a large, general migration route. According to the EIR/EIS, there is no specific information describing the Project area as a major route of the coastal Pacific Flyway for birds during migration. The interior Pacific Flyway migration route does not occur within the Project area, but is focused on a stopover at the Salton Sea, which is located approximately 40 miles northeast of the Project. In addition, the Project area does not support any large bodies of water or wetlands that serve as attractants or migration stopovers for avian species.

There have been no potential avian risk areas identified for transmission lines currently in operation within the Project area. No previous electrocutions or bird-related outages have been reported on the existing SWPL 500 kV transmission line, which runs parallel to the Project’s overhead component of the 138 kV line. Eagle and other raptor collisions with high-voltage electric power lines are rare, as described by the APLIC (1994). Because raptor collisions with

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<sup>1</sup> Injured birds are reported immediately to SDG&E Environmental Services to determine if it should be transported to a wildlife rehabilitation center.

high-voltage power lines are rare and not documented in the Project area, the risk of electrocutions and collisions along the Project line should remain low.

According to the Project's Final EIR/EIS, golden eagles have a high potential to forage over the Project area based on suitable habitat and known occurrences in the area. Suitable nesting habitat is found in the coast live oak woodland along the 138 kV transmission line corridor and near the rocky cliff areas east and north of the Project area. No nesting pairs or territories were documented in the immediate Project area during helicopter surveys conducted in 2010, 2011, and 2012 (Wildlife Research Institute [WRI] 2010a, 2010b, 2011, 2012). The surveys indicated that there are three known territories within 10 miles of the Project area. The closest territory is located north of Interstate 8 at Table Mountain, and includes historic golden eagle nests between approximately 1.75 and 2.5 miles of the nearest Project components<sup>2</sup>. The Table Mountain territory was noted to be active but not productive for the 2012 breeding season (WRI 2012). This territory was not confirmed to be active in 2010 or 2011 (WRI 2010a, 2010b, 2011). The next closest territory is Carrizo Gorge, and includes nests over 6.0 miles from the nearest Project components. The Carrizo Gorge territory was documented as active and productive for the 2012 breeding season (WRI 2012). This territory was not active in 2010 and 2011 (WRI 2010a, 2010b, 2011). There are no nests recorded in the historical territory of Boundary Peak, and the territory was not active in 2012, 2011, or 2010 (WRI 2010a, 2010b, 2011, 2012).

Risk assessment will continue through Project operation by combining several aspects of this Project-specific APP, including implementing the avian reporting system, documenting nest management actions, and tracking bird-related outages. Additionally, post-construction mortality monitoring will be conducted during the first year of Project energization as requested by USFWS in order to document potential power line interaction with eagles and other birds, as provided in Attachment B: Post-Construction Avian Mortality Monitoring. The information provided will accomplish the following:

- verify raptor electrocutions and collisions, update mapped data, and develop additional data on concentrations of raptors and other migratory birds;
- assist in the identification of factors that lead to concentration areas and potentially higher numbers of electrocutions, collisions, and outages;
- assist in refining criteria and protocols to further avian conservation; and
- assist in identifying or developing methods to refine criteria and protocols.

#### **4.7 QUALITY CONTROL AND EFFECTIVENESS**

SDG&E will review and update practices to assure efficiency and effectiveness. This Project-specific APP will undergo continual review and updating as additional information becomes available. SDG&E will continue to monitor data collection and results, and assess mortality reporting procedures to assure that discoveries of avian mortalities are properly documented. In addition, SDG&E will periodically evaluate the effectiveness of the training and educational

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<sup>2</sup> Precise nest locations are considered sensitive information and are not released by the Wildlife Research Institute Golden Eagle Team. The nearest Project components are the ECO Substation (Table Mountain) and the Boulevard Substation (Carrizo Gorge).

programs, and will contemplate additional training and programs based on feedback from personnel.

#### **4.8 AVIAN ENHANCEMENT AND PUBLIC AWARENESS**

SDG&E currently engages in activities that provide avian enhancement and benefit bird populations within its service area. SDG&E's construction of nest platforms provides nesting sites while minimizing the risks of electrocution. In addition, SDG&E creates public awareness by supporting local environmental organizations, such as Sky Hunters, Project Wildlife, and the Chula Vista Nature Center. SDG&E will also work cooperatively with agencies throughout the construction and operation of the Project. This will result in benefits to bird populations and create public awareness about avian power line issues and solutions.

##### **4.8.0 Nest Platforms**

A variety of birds may nest on power poles, including hawks, falcons, owls, ravens, and kingbirds. Nests that become established on Project poles—or other structures that do not pose a risk to safety, reliability, fire, or electrocution—will be left in place. However, if a nest is established on a Project pole or structure that poses a fire or safety risk, it may need to be relocated to a nest platform. The installation of a nest platform can provide an alternative nesting site for the bird. Nests that need to be relocated to nest platforms will require a federal or state permit. Constructing a nest platform or modifying the pole to accommodate both the nest and power operations are management options that will be considered. In addition, nest platforms are highly visible and provide an opportunity to educate the public about nesting avian species in the area, as well as to create awareness about power line issues and solutions.

##### **4.8.1 Community Partnerships and Outreach**

SDG&E supports environmental education programs that enhance understanding and awareness of the ecosystem and environmental conservation. More than 80 non-profit organizations have received grants as part of SDG&E's Environmental Champions Initiative. Grants are given to organizations that specifically support environmental education and youth programs for students in kindergarten through 12th grade. Grants are also available to organizations that support community programs that engage the public in environmental activities. One recipient, Project Wildlife, provides direct benefits to avian populations by caring for approximately 10,000 injured, orphaned, or sick birds and mammals, representing approximately 320 species. Project Wildlife also helps educate children about San Diego's wildlife, and has partnered with SDG&E on several education programs. Other examples of SDG&E's community partnerships include the Chula Vista Nature Center, located in the Sweetwater Marsh National Wildlife Refuge, and San Diego Zoo's EnviroSchool program. While these two educational programs do not specifically focus on avian power line issues, they promote overall environmental awareness and directly benefit wildlife.

#### **4.9 KEY RESOURCES**

Contact information is provided in the following subsections for internal and external resources that will assist with the implementation of this APP.

#### **4.9.0 SDG&E Environmental Services**

For questions regarding SDG&E policies on avian protection and reporting avian injuries, mortalities, or nests, contact the following individuals:

Ron Freeman, Supervisor, Biological Resources  
rfreeman@semprautilities.com  
Office: (858) 637-3707  
Cell: (619) 322-2572

Don Houston, Project Manager II  
dfhouston@semprautilities.com  
Office: (858) 503-5006  
Cell: (619) 820-0212

Kirstie Reynolds, Environmental Compliance Lead  
kreynolds@semprautilities.com  
Office: (619) 441-3818  
Cell: (619) 992-1956

#### **4.9.1 USFWS**

For migratory bird permit information and applications, contact the following individuals at the USFWS Migratory Bird Permit Office:

Shannon Sandman, Migratory Birds Permit Office  
USFWS Region 8 Pacific Southwest  
shannon\_sandman@fws.gov  
Phone: (916) 414-6736

Jennifer Brown, Permit Biologist  
USFWS Region 8 Pacific Southwest  
jennifer\_brown@fws.gov or PermitsR8MB@fws.gov  
Phone: (916) 414-6464

For any other questions, contact the USFWS at the Carlsbad Office:

Thomas Dietsch  
Carlsbad USFWS Office  
thomas\_dietsch@fws.gov  
Phone: (760) 431-9440

#### **4.9.2 Eagles**

To report a dead or injured eagle, contact the following individuals at the USFWS and CDFG.

SDG&E's primary contact is the USFWS Office of Law Enforcement:

Lisa Nichols, Senior Special Agent  
USFWS Office of Law Enforcement  
610 West Ash St., Suite 1103  
San Diego, CA 92101  
lisa\_nichols@fws.gov  
(619) 557-5063 office  
(619) 954-5498 cell

Roger Turnell, Special Agent  
USFWS Office of Law Enforcement  
610 West Ash St., Suite 1103  
San Diego, CA 92101  
roger\_turnell@fws.gov  
(619) 557-5063 office  
(619) 954-5499 cell

Additional points of contact:

Heather Beeler, Permit Biologist - Eagles  
USFWS Region 8 Pacific Southwest  
heather\_beeler@fws.gov  
Phone: (916) 414-6651

Erinn Wilson, Staff Environmental Scientist  
CDFG South Coast Region  
ewilson@dfg.ca.gov  
Phone: (562) 342-7172

#### **4.9.3 Injured Wildlife**

Sky Hunters Raptor Rehabilitation & Education is the primary contact for reporting injured wildlife. Sky Hunters can be contacted at the following:

Sky Hunters Raptor Rehabilitation & Education  
PO Box 1275  
Lakeside, CA 92040  
skyhunters@juno.com  
Phone: (619) 445-6565

Other rehabilitators in the area include the following:

Project Wildlife  
4343 Morena Blvd, #7  
San Diego, CA 92117  
info@projectwildlife.org  
Phone: (858) 866-0555

Fund for Animals Wildlife Rehabilitation Center  
18740 Highland Valley Road  
Ramona, CA 92065  
acrumpacker@humanesociety.org  
Phone: (760) 420-9522



## 5 – REFERENCES

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- WRI. 2011. Golden Eagle Surveys Surrounding Sunrise Powerlink Project Alignment in San Diego and Imperial Counties, California. Prepared for San Diego Gas & Electric by the Wildlife Research Institute, Ramona, CA. December 23, 2011.

WRI. 2012. Golden Eagle Surveys for the Sunrise Powerlink Project in San Diego and Imperial Counties, California. Prepared for San Diego Gas & Electric by the Wildlife Research Institute, Ramona, CA. December 3, 2012.



**APPENDIX A: NESTING BIRD MANAGEMENT, MONITORING AND REPORTING PLAN**



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**SAN DIEGO GAS & ELECTRIC COMPANY  
EAST COUNTY SUBSTATION PROJECT  
NESTING BIRD MANAGEMENT, MONITORING,  
AND REPORTING PLAN**

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**San Diego Gas & Electric**

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**LIST OF ATTACHMENTS**

Attachment A: Nest Survey Report and Nest Notification Forms



## LIST OF ABBREVIATIONS AND ACRONYMS

AMM	Avoidance and Minimization Measures
BLM	Bureau of Land Management
CDFW	California Department of Fish and Wildlife
CPUC	California Public Utilities Commission
ECSP	East County Substation Project
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
MBTA	Migratory Bird Treaty Act
MM	Mitigation Measures
MMCRP	Mitigation Monitoring, Compliance, and Reporting Program
NBMMRP	Nesting Bird Management, Monitoring and Reporting Plan
NML	Nest Monitoring Log
Plan	Nesting Bird Management, Monitoring and Reporting Plan
SAA	Streambed Alteration Agreement
SDG&E	San Diego Gas & Electric Company
USFWS	U.S. Fish and Wildlife Service
WLA	Wildlife Agencies (CDFW & USFWS)
YTD	Year to Date

## **1 – INTRODUCTION**

This Nesting Bird Management, Monitoring, and Reporting Plan (NBMMRP) describes the measures that will be taken by San Diego Gas & Electric Company (SDG&E) and SDG&E's contractors to assure the avoidance and minimization of impacts to nesting birds during construction of the East County Substation Project (ECSP or Project). The Project involves the construction of a new 500/230/138 kilovolt (kV) Substation; rebuild of the existing Boulevard Substation in a new location; and construction of an approximately 14-mile-long 138 kV transmission line, consisting of overhead and underground segments, to connect the two substations. This NBMMRP was prepared in accordance with Mitigation Measure (MM) BIO-7j of the Mitigation Monitoring, Compliance, and Reporting Program (MMCRP) and Avoidance and Minimization Measures (AMM) 2.7, 2.8, and 2.10.2 of the Streambed Alteration Agreement (SAA; Notification # 1600-2011-0328-R5) for the Project. This NBMMRP describes nesting bird deterrents, survey protocols, guidelines for establishing buffers, and instructions for monitoring and reporting nesting activities.

## **2 – OBJECTIVES**

The purpose of this NBMMRP is to provide the SDG&E construction management team with a description of protocols and methods that will be implemented to avoid and minimize impacts to nesting birds associated with construction of the Project. The NBMMRP provides specific information for complying with State and Federal Regulations, implementing MM BIO-7j and the SAA, detail passive methods that may be utilized to avert nest construction, and describes the methods for surveying, monitoring and reporting nesting bird activities in proximity to the Project. The management, monitoring, and reporting practices in this NBMMRP are intended to accomplish the following objectives:

- Avoid or minimize Project-related disturbance on nesting birds
- Maintain consistency with MM BIO-7j specified in the Project's MMCRP
- Meet requirements of AMMs 2.7, 2.8, and 2.10.2 of the Project's SAA
- Comply with Fish and Game Code Sections 3503, 3503.5, 3511, and 3513 and the Migratory Bird Treaty Act Section 703 (Section 3 – Applicable Regulations)

Although this NBMMRP was developed to directly meet MM BIO-7j, SAA, and State and Federal Regulations, it also provides Project specific methods that may require adaptation during Project construction. Therefore this document is adaptive and can be modified during construction with concurrence from the applicable resource agencies. Revisions can relate to deterrents, survey methods, reporting, buffer application, survey timing, or any other items related to nesting birds and conformance with the applicable Project Mitigation Measures or state and federal laws. For example, the start and end date of the raptor/nesting bird season can vary based on annual fluctuations in climate, and the dates of required surveys can be adjusted accordingly with concurrence from the California Public Utilities Commission (CPUC), Bureau of Land Management (BLM) and Wildlife Agencies (WLA; U.S. Fish and Wildlife Service [USFWS] and California Department of Fish and Wildlife [CDFW]).

### **3 – APPLICABLE REGULATIONS**

#### **3.0 FISH AND GAME CODE**

**3503.** *It is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto.*

**Section 3503.5.** *It is unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes (birds-of-prey) or to take, possess or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto.*

**Section 3511.** *(a) (1) Except as provided in Section 2081.7 or 2835, fully protected birds or parts thereof may not be taken or possessed at any time. No provision of this code or any other law shall be construed to authorize the issuance of permits or licenses to take any fully protected bird, and no permits or licenses heretofore issued shall have any force or effect for that purpose. However, the department may authorize the taking of those species for necessary scientific research, including efforts to recover fully protected, threatened, or endangered species, and may authorize the live capture and relocation of those species pursuant to a permit for the protection of livestock. Prior to authorizing the take of any of those species, the department shall make an effort to notify all affected and interested parties to solicit information and comments on the proposed authorization. The notification shall be published in the California Regulatory Notice Register and be made available to each person who has notified the department, in writing, of his or her interest in fully protected species and who has provided an e-mail address, if available, or postal address to the department. Affected and interested parties shall have 30 days after notification is published in the California Regulatory Notice Register to provide any relevant information and comments on the proposed authorization.*

*(2) As used in this subdivision, "scientific research" does not include any actions taken as part of specified mitigation for a project, as defined in Section 21065 of the Public Resources Code.*

*(3) Legally imported fully protected birds or parts thereof may be possessed under a permit issued by the department.*

*(b) The following are fully protected birds:*

- (1) American peregrine falcon (Falco peregrinus anatum).*
- (2) Brown pelican.*
- (3) California black rail (Laterallus jamaicensis coturniculus).*
- (4) California clapper rail (Rallus longirostris obsoletus).*
- (5) California condor (Gymnogyps californianus).*
- (6) California least tern (Sterna albifrons browni).*
- (7) Golden eagle.*
- (8) Greater sandhill crane (Grus canadensis tabida).*
- (9) Light-footed clapper rail (Rallus longirostris levipes).*
- (10) Southern bald eagle (Haliaeetus leucocephalus leucocephalus).*
- (11) Trumpeter swan (Cygnus buccinator).*

(12) *White-tailed kite (Elanus leucurus)*.

(13) *Yuma clapper rail (Rallus longirostris yumanensis)*.

**Section 3513.** *It is unlawful to take or possess any migratory nongame bird as designated in the Migratory Bird Treaty Act or any part of such migratory nongame bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the Migratory Treaty Act.*

### 3.1 CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE DEFINITIONS

The definitions of a nest, active nest, and breeding season were provided by CDFW (CDFW; pers. com. December 19, 2012). For this document the terms are defined as:

**Nest** (noun): A nest is a structure or site under construction or preparation, having been constructed or prepared, or being used by a bird, for the purpose of laying eggs, incubating eggs, or rearing young, or is otherwise critical to the life history of the individual (e.g., individuals of species that exhibit site fidelity, colonial nesters and raptors). Perching sites and screening vegetation are not part of the nest.

**Active nest:** A nest as defined above, during the portion of the breeding season as defined below, once birds begin constructing or repairing the nest in readiness for egg-laying. A nest is no longer an “active nest” if abandoned by the adult birds or once nestlings or fledglings are no longer dependent on the nest. Nests which are critical to the life history of the individual (e.g., individuals of species that exhibit site fidelity, colonial nesters and raptors) are considered an Active Nest year-round.

**Breeding Season:** The period of the year during which courting, breeding, or nesting occurs, or when breeding adult birds or their nestlings or fledglings are at or near a nest. The breeding season varies among bird species and geographic locations. The public may consult with the Department to determine the breeding season in a particular circumstance.

### 3.2 MIGRATORY BIRD TREATY ACT

**Section 703.** *Unless and except as permitted by regulations made as hereinafter provided in this subchapter, it shall be unlawful at any time, by any means or in any manner, to pursue, hunt, take, capture, kill, attempt to take, capture, or kill, possess, offer for sale, sell, offer to barter, barter, offer to purchase, purchase, deliver for shipment, ship, export, import, cause to be shipped, exported, or imported, deliver for transportation, transport or cause to be transported, carry or cause to be carried, or receive for shipment, transportation, carriage, or export, any migratory bird, any part, nest, or egg of any such bird, or any product, whether or not manufactured, which consists, or is composed in whole or part, of any such bird or any part, nest, or egg thereof, included in the terms of the conventions between the United States and Great Britain for the protection of migratory birds concluded August 16, 1916 (39 Stat. 1702), the United States and the United Mexican States for the protection of migratory birds and game mammals concluded February 7, 1936, the United States and the Government of Japan for the*

*protection of migratory birds and birds in danger of extinction, and their environment concluded March 4, 1972, and the convention between the United States and the Union of Soviet Socialist Republics for the conservation of migratory birds and their environments concluded November 19, 1976. This law only applies to migratory bird species that are native to the United States or its territories.*

Regarding unoccupied nests<sup>1</sup>, guidance provided by USFWS to clarify the Migratory Bird Treaty Act (MBTA) states: *the MBTA does not contain any prohibition that applies to the destruction of a migratory bird nest alone (without birds or eggs), provided that no possession occurs during the destruction (USFWS 2003).*

## **4 – AVOIDANCE AND MINIMIZATION MEASURES**

Each section of this document was developed to meet the requirements of State and Federal regulations and the applicable avoidance and minimization measures from the MMCRP and SAA. All nesting bird requirements of MM BIO-7j and the SAA are addressed in this Plan. As the details of the document are presented, the specific language from the measures will be shown at the top of the applicable section.

### **4.0 MITIGATION MEASURE BIO-7J**

*MM BIO-7j: If the Project must occur during the avian breeding season (February 1st to August 31st, and as early as January 1st for some raptors), SDG&E should work with the California Department of Fish and Game (CDFW), Bureau of Land Management (BLM), and the United States (U.S.) Fish and Wildlife Service (USFWS) to prepare a Nesting Bird Management, Monitoring, and Reporting Plan (NBMMRP) to address avoidance of impacts to nesting birds. SDG&E will submit the NBMMRP to the agencies for review and approval prior to commencement of the Project during the breeding season. The NBMMRP should include the following:*

- 1. Nest Survey Protocols describing the nest survey methodologies*
- 2. A Management Plan describing the methods to be used to avoid nesting birds and their nests, eggs, and chicks.*
- 3. A Monitoring and Reporting Plan detailing the information to be collected for incorporation into a regular Nest Monitoring Log (NML) with sufficient details to enable the USFWS and CDFW to monitor SDG&E's compliance with Fish and Game Code Sections 3503, 3503.5, 3511, and 3513*
- 4. A schedule for submittal of the NML, which is usually weekly*
- 5. Standard buffer widths deemed adequate to avoid or minimize significant Project-related edge effects (disturbance) on nesting birds and their nests, eggs, and chicks*

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<sup>1</sup> Defined in Section 9 - Glossary

6. *A detailed explanation of how the buffer widths were determined*
7. *All measures SDG&E will implement to preclude birds from utilizing Project-related structures (i.e., construction equipment, facilities, or materials) for nesting*

*To determine presence of nesting birds that the Project activities may affect, surveys should be conducted beyond the Project area—300 feet for passerine birds and 500 feet for raptors. The survey protocols should include a detailed description of methodologies utilized by CDFW-approved avian biologists to search for nests and describe avian behaviors that indicate active nests. The protocols should include but are not limited to the size of the Project corridor being surveyed, method of search, and behavior that indicates active nests.*

*Each nest identified in the Project area should be included in the NML. The NMLs should be updated daily and submitted to the CDFW weekly. Since the purpose of the NMLs is to allow the CDFW to track compliance, the NMLs should include information necessary to allow comparison between nests protected by standard buffer widths recommended for the Project (300 feet for passerine birds, 500 feet for raptors) and nests whose standard buffer width was reduced by encroachment of Project-related activities. The NMLs should provide a summary of each nest identified, including the species, status of the nest, buffer information, and fledge or failure data. The NMLs will allow for tracking the success and failure of the buffers and will provide data on the adequacy of the buffers for certain species.*

*SDG&E will rely on its Avian Biologists to determine the appropriate buffer widths for nests within the Project corridor/footprint to employ based on the sensitivity levels of specific species or guilds of avian species. The determination of the buffer widths should be site- and species-/guild-specific and data-driven and not based on generalized assumptions regarding all nesting birds. The determination of the buffer widths should consider the following factors:*

- *Nesting chronologies*
- *Geographic location*
- *Existing ambient conditions (i.e., human activity within line of sight—cars, bikes, pedestrians, dogs, noise, etc.)*
- *Type and extent of disturbance (e.g., noise levels and quality—punctuated, continual, ground vibrations—blasting-related vibrations, etc.)*
- *Visibility of disturbance*
- *Duration and timing of disturbance*
- *Influence of other environmental factors*
- *Species' site-specific level of habituation to the disturbance*

*Application of the buffer widths should avoid the potential for Project-related nest abandonment and failure of fledging, and minimize any disturbance to the nesting behavior. If Project activities cause or contribute to a bird being flushed from a nest, the buffer must be widened.*

#### **4.1 STREAMBED ALTERATION AGREEMENT MEASURES**

*SAA AMM 2.7: Nesting Birds. To protect nesting birds while construction activities occur within 500 feet of jurisdictional features, the Permittee shall prepare a Nesting Bird*

*Management Monitoring and Reporting Plan (NBMMRP). The purpose of the NBMMRP is to provide a methodology for avoidance and minimization of impacts to all nesting birds during construction. The NBMMRP shall be approved by CDFW prior to construction during the bird nesting season (typically February 1st through September 1st for most passerines and as early as January 1st through September 15th for raptors).*

*SAA AMM 2.8: Take of Bird Nests. The Applicant shall not take or destroy nests (or eggs) of birds that are designated under Federal and California State laws, MBTA and Fish and Game Code Sections 3503, 3503.5, 3511, and 3513.*

*SAA AMM 2.10.2: Vegetation removal within jurisdictional streams at the ECO Substation, yards, and pull sites shall be cleared outside the nesting season (February 1st to August 1st). If vegetation clearing is not completed prior to the breeding season, the applicant will coordinate activities with DFG, pursuant to the NBMMRP, prior to vegetation clearing during the nesting season.*

## **5 – PLAN IMPLEMENTATION**

*MM BIO-7j: A Management Plan describing the methods to be used to avoid nesting birds and their nests, eggs, and chicks.*

*SAA AMM 2.7: The purpose of the NBMMRP is to provide a methodology for avoidance and minimization of impacts to all nesting birds during construction.*

SDG&E will implement this NBMMRP if construction of the Project will occur during the avian breeding season<sup>2</sup> (specifically defined in the MMCRP as February 1st to August 31st, and as early as January 1st for some raptors). Although the species and status of the active nest<sup>3</sup> (nest<sup>4</sup>) will be identified in order to direct the appropriate management actions, all impacts and disturbance to nest will be avoided to the extent feasible, and minimized if unable to be fully avoided.

### **5.0 EXISTING AVIAN RESOURCES**

As detailed in the joint Environmental Impact Report/Environmental Impact Statement (EIR/EIS) for the Project, potential impacts to nesting birds are limited to mostly common and abundant species. No federal or state listed species were observed during surveys for the Project and are not expected to nest in proximity to the Project. Other special status bird and raptor species potential to occur was evaluated for the EIR/EIS and are generally limited to fly over potential. Southwestern willow flycatcher (*Empidonax traillii extimus*), least Bell's vireo (*Vireo bellii pusillus*), golden eagle (*Aquila chrysaetos*), and burrowing owl (*Athene cunicularia*) potential, and other raptor species are specifically discussed in Section 6.4.

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<sup>2</sup> Defined in Section 3 – Applicable Regulations

<sup>3</sup> Defined in Section 3 – Applicable Regulations

<sup>4</sup> This NBMMRP applies to active nests, which are referred to as “nests” throughout this Plan.

## 5.1 METHODS SUMMARY

This Plan describes the methods to be used to avoid and minimize disturbance and impacts to nesting birds and their nests, eggs, and chicks and includes the following components: environmental awareness program, pre-construction surveys and monitoring methods, and reporting. Details on survey methods, buffers, the NML and weekly submittals, nest monitoring, special status species and raptors, and reporting are included in Sections 6 and 7.

### 5.1.0 Pre-Construction Surveys and Reporting

Pre-construction nesting bird surveys will be conducted by a CDFW-approved Avian Biologist no more than 10 days prior to planned construction in order to locate nests within and adjacent to the proposed work area. Results of nest surveys will be detailed in the Nest Survey Report (Attachment A: Nest Survey Report and Nest Notification Forms) and submitted to the CPUC and BLM no less than 72 hours prior to construction. An additional verification survey will be performed by a CDFW-approved Avian Biologist no more than 3 days prior to construction to assure discovery of any new nesting activity initiated since the original survey. If a nest is detected during the pre-construction nest survey, the Avian Biologist will include the details of each nest along with minimization and avoidance measures, and buffers implemented in the Nest Survey Report. If a nest is detected during a verification survey or during construction monitoring, the details of each nest along with minimization and avoidance measures, and buffers implemented will be included in a Nest Notification Form (Attachment A: Nest Survey Report and Nest Notification Forms). Details of each nest discovered during surveys or during monitoring will be included in the Nest Monitoring Log (NML).

In addition to the pre-construction nesting bird survey and the verification survey, the Environmental Inspector or Avian Biologist will perform a daily sweep on the first day of construction and for each day during construction activities within the breeding season to look for biological resources, including nesting birds. If a nest is identified during the daily sweep, an Avian Biologist will subsequently observe the nest and report the findings as appropriate.

### 5.1.1 Nest Buffers

Buffers will be applied to each nest in order to avoid and minimize impacts to nesting birds. The standard buffer distances recommended for the Project in MM BIO-7j are 300 feet for passerine birds and 500 feet for raptors. However, effective buffer distances are highly variable and based on specific project settings, bird species, stage of nesting cycle, work type, and the tolerance of a particular bird pair. Therefore, effective buffer distances for nests will be determined by a CDFW-approved Avian Biologist in the field. This approach is consistent with MMBIO 7j which states “the determination of the buffer widths should be site- and species-/guild-specific and data-driven and not based on generalized assumptions regarding all nesting birds.” Guidelines for determining and implementing buffers are described in Section 6.3.

Nests identified during pre-construction nesting bird surveys, follow-up verification surveys, or during construction monitoring will be recorded in the NML. All nests that are found within the Project survey area (300 feet for passerines and other non-raptors and 500 feet for raptors) will be subsequently monitored. Nests that are within 150 feet for passerines and other non-raptors, and within 400 feet for raptors, will be monitored until the final nest outcome is determined. All



other nests will only be monitored until a final nest outcome is determined or for the duration of Project construction in proximity to the nest. If it is determined by an Avian Biologist or WLA that the buffer implemented is not effective, adaptive management will be applied (may include increasing the buffer width, revising work method or schedule, installing visual or sound barrier, etc.) as described in Section 6 below.

### **5.1.2 Passive Deterrents**

To minimize harm to birds or their eggs or young, passive deterrents will be implemented in advance of construction to minimize the potential for nests to become established in an active work<sup>5</sup> area. Passive deterrents (i.e. netting, vegetation management, colored gravel, etc.) are described in Section 8 – Nesting Bird Deterrent Methods. All nesting deterrents are intended to prevent nesting attempts and do not include the use of devices that prevent nesting from continuing once a nest is built.

### **5.1.3 Nesting Attempts Adjacent to Active Work**

During construction in active work sites, passive deterrents (see Section 8) will be used to preclude and minimize nesting on or near equipment, structures, and staged supplies in the work area. Birds that initiate nest construction adjacent to the active work area during construction will receive a buffer that is equal to the distance from the work site. The nest and nest substrate (bush, tree, etc.) will be avoided in all cases.<sup>6</sup> Birds that are less tolerant to disturbance will increase their chance of reproductive success by nesting elsewhere, while birds that are more tolerant to disturbance will continue their nest cycle regardless of construction activity. The Avian Biologist may implement additional minimization measures if a bird continues the nest cycle and lays eggs, or where otherwise appropriate. Additional measures could include increasing the buffer width, revising work method or schedule, installing visual or sound barrier, etc. If the level of work changes significantly or the distance of active work in relation to the nest decreases, the Avian Biologist will reassess the minimization measures.

### **5.1.4 Nest Monitoring Log**

The NML and a summary that includes a list of new nests observed, current nests with data collected to date, closed nests (no longer active, fledged, abandoned, monitoring discontinued, etc.), year to date (YTD) outcomes, recommended buffers implemented, and a list of nesting species observed to date will be submitted to the WLA weekly.

## **5.2 ENVIRONMENTAL AWARENESS PROGRAM**

All SDG&E, contractor, and subcontractor personnel working on the Project will participate in an environmental awareness program. The program will include the appropriate work practices necessary to effectively implement the NBMMRP and to comply with applicable environmental laws and regulations. The program will also include appropriate wildlife avoidance methodologies, such as impact minimization procedures and methods for protecting nesting birds

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<sup>5</sup> Defined in Section 9 - Glossary

<sup>6</sup> Active nests will be avoided, with the exception of non-native species and in specific circumstances described and addressed in Section 8.

and sensitive ecological resources. Information about the importance of these resources and the purpose of protecting wildlife will also be described in the program.

## 6 – NEST SURVEY AND MONITORING METHODOLOGY

### 6.0 SURVEYOR EXPERIENCE AND TRAINING

Avian Biologists will be sufficiently skilled and experienced with the identification, by both sight and sound, of all species expected to occur in this region, and with nesting requirements of local nesting birds, so as to conduct accurate and efficient surveys. Per MM BIO-7j, all Avian Biologists will be approved by CDFW. Prior to work within the nesting bird season, a copy of their names and resumes will be provided along with a request for written approval. Environmental Inspectors will also be familiar with local bird species and their breeding behaviors, and have sufficient construction monitoring experience.

The following describes the roles and responsibilities for determining and monitoring nests, and for determining and implementing the appropriate nest buffers.

#### **Avian Biologist:**

- Searches for and identifies all avian nests;
- recommends appropriate effective buffer and communicates this to the Lead Environmental Inspector and SDG&E;
- details collected information and observations into required survey forms and enters information into the pen tablet which uses customized SDG&E Data Collector application software (data is summarized in weekly NML);
- installs flagging/signage that establishes recommended buffer around nests;
- recommends, as needed, additional methods to reduce disturbance, such as establishing no stopping/standing/construction zones;
- involved in determining when a nest should be closed (nest cycle or construction complete) based on personal observations or those of the Environmental Inspector;
- determines nest outcome or nest condition at the time of monitoring cessation; and
- removes flagging around a closed nest.

#### **Environmental Inspector:**

- Conducts daily sweeps to search for and identify additional nests in the immediate work area prior to and during construction activities;
- actively monitors construction activities adjacent to nests;
- communicates regularly with the Avian Biologist about any nesting bird behaviors observed; and

- installs flagging/signage around a nest to establish a buffer following guidance provided by the Avian Biologist and SDG&E.

**SDG&E Environmental Compliance Lead:**

- Primary point of contact with the WLA, CPUC and BLM on nesting bird issues and questions;
- communicates with WLA, CPUC, and BLM regarding nesting bird management issues;
- works with the SDG&E Environmental Specialist and Avian Biologists regarding avian issues; and
- regularly reviews all agency submittals related to the MM BIO-7j and the SAA.

**SDG&E Environmental Resource Specialist:**

- Secondary point of contact for the WLA, CPUC and BLM for avian issues;
- reviews nesting bird avoidance and minimization measures for consistency and accuracy prior to submittal to the resource agencies; and
- provides support to the SDG&E Environmental Compliance Lead in the review of the Nest Monitoring Log.

**6.1 PEN TABLETS AND DATA COLLECTION**

For this Project, SDG&E is employing a pen tablet (Motion Computing F5v tablet personal computer) that links to a natural resource database for Avian Biologists to use during the nest survey process. The database and associated mapping interface will be regularly updated so real-time biological resource data, including nests and their assigned buffers, will be visible to the Avian Biologist and Environmental Inspectors in the field.

The pen tablet is a mobile GIS computing system that allows multiple users to create, edit, input, distribute, and retrieve data on a daily basis using the SDG&E Data Collector application – a software interface developed specifically for SDG&E. It is important for biologists to quickly and accurately record and distribute the data on nesting birds to assure timely protection of all nests.

The SDG&E Data Collector allows Avian Biologists and Environmental Inspectors to independently refer to relevant Project nesting bird information and to update such information through a centralized data management and distribution system. The result is a high level of accuracy and timeliness– and a tool for the Avian Biologist to manage and mark buffers; collect data related to the determination of potential effects on nests in work areas; communicate modifications of recommended buffers; comply with nest monitoring requirements; communicate effectively with construction management regarding data collection related to potential protection methods; and record valuable data about the natural histories of nesting bird species throughout the Project.

**6.2 NESTING BIRD SURVEY PROTOCOL**

MM BIO-7j: *Nest Survey Protocols describing the nest survey methodologies.*

The following protocol outlines procedures for pre-construction nesting bird surveys and verification surveys. This protocol is intended to streamline communications between all parties and facilitate rapid reporting of nest observations, as well as the implementation of approved MMs.

- If construction work is initiated during the nesting bird season (February 1st to August 31<sup>st</sup> and as early as January 1st for some raptors ), nesting bird surveys will be conducted by a CDFW-approved Avian Biologist in the work area, plus a 300-foot buffer for passerine birds and a 500-foot buffer for raptors. (SDG&E will assure proper landowner notification when survey areas are located outside of the SDG&E right-of-way. If landowners do not allow access, Avian Biologists will survey from perimeter of property and determine whether complete coverage is achieved. If complete coverage is not achieved and the Avian Biologist feels the work can be completed without the potential for impacts to nesting birds, agency concurrence will be required prior to work.)
- Pre-construction nesting bird surveys will be conducted by an Avian Biologist no more than 10 days prior to initiating construction activities. A subsequent verification survey will be conducted by an Avian Biologist no more than 3 days prior to work. Additionally, a preconstruction survey/sweep will be conducted immediately preceding initial work and daily while construction is occurring during the nesting season thereafter. If work is not initiating within 10 days of the pre-construction survey, a new pre-construction survey will be conducted and new report will be submitted. If work is not initiating within 3 days of the verification survey, a new verification survey will be conducted. Nest Survey Reports will be filled out for pre-construction nesting bird surveys and provided to the CPUC and/or BLM no less than 72 hours prior to construction. If unanticipated work is proposed and a nesting bird survey report cannot be completed and provided 72 hours prior to construction, work may occur provided a survey is completed and the report is submitted to and validated by the CPUC prior to work.
- The CPUC and BLM will be notified within 48 hours of the discovery of a nest during a pre-construction survey (Nest Survey Report), verification survey (Nest Notification Form), or construction monitoring (Nest Notification Form) if the nests are within proximity to construction activities. Additionally, all nests found will be recorded in the NML which will be submitted weekly to the CDFW and USFWS.
- The nesting bird survey areas will include all locations where construction is scheduled to be initiated during the nesting season and the applicable survey buffers. All areas where work is proposed to occur, scheduled or unanticipated, will have a survey and report submitted prior to work. These survey areas may include, but are not limited to, pole installation work areas, the substation site, the Boulevard Substation rebuild site, staging areas, pull sites, access roads, and fly/construction yards (A list of anticipated work types is provided in Section 7.0 – Nest Monitoring Log). Site-specific modifications to the survey area may be appropriate to account for landscape and topography features that naturally buffer avian species from construction activities, or in residential or commercial areas where existing levels of disturbance would tend to exceed Project-related

disturbance. In these instances, modifications to the survey areas will be made by the SDG&E Avian Biologist and details will be provided in the Nest Survey Report.

- Nest surveys will not be conducted along existing access roads that will only be used for drive-through access and that are actively used by the public, private landowners, or U.S. Border Patrol. Roads that require grading, widening or other ground disturbance, vegetation removal activities, or that will be used for parking or staging during the nesting season will be surveyed according to this NBMMP.
- If a helicopter will be used for work (e.g., conductor stringing) during the nesting bird season, the nest survey areas will include the helicopter work flight paths to the extent feasible. Survey areas will take into account vertical distance to potential nests. Site-specific modifications to the survey area may be appropriate to account for landscape and topography features that naturally buffer avian species from construction activities. In these instances, modifications to the survey areas will be made by the SDG&E Avian Biologist and details will be provided in the Nest Survey Report. Avian Biologists will consider the potential for impacts to nests created by down wash, rotor wash, vibration, disturbance from above for elevated nests, and other helicopter-related disturbances when determining avoidance and minimization recommendations.

### **6.2.0 Nest Searching and Processing**

Nest searches will be conducted utilizing nest-finding methods described in the Handbook of Field Methods for Monitoring Landbirds (Ralph et al. 1993). These methods rely on auditory and visual behavioral cues to locate nests. Surveys will focus on all nest types (e.g., ground, cavity, shrub/tree/vegetation, and bridge/structural).

- Surveys will be conducted in teams of two or more by sitting or standing at selected vantage points and observing bird activity and behavior, and then walking systematically through the entire survey area to detect any additional bird activity and behavior, and to locate nests.
- Weather conditions must be conducive to bird activity and visual detection. Nest surveys will not be conducted during inclement weather, such as steady or heavy rain events, or sustained high-wind conditions.
- Each site will be surveyed for an adequate amount of time to determine the nesting status of the site. The amount of time spent surveying will vary depending on vegetation density and bird behavior. SDG&E's Avian Biologist may conclude that a nest is present or determine the nest status based on breeding behavior without locating or directly observing the actual nest. In some cases a nest may not be directly observed if the suspected nest location is inaccessible due to unsafe terrain, height of the nest, dense vegetation, or some other barrier that prevents the Avian Biologist from safely observing the nest.
- Data relating to breeding—including nest phenology (e.g., singing, courtship, territorial displays, nest building, mate pairing, egg laying, incubating, nestling, and fledgling)—

will be recorded. Signs of nest building, such as birds carrying nest material, will be utilized to locate nests.

If a nest is found, the Avian Biologists will recommend site-specific avoidance and minimization measures. Nest-finding techniques for all birds will include systematic searches and observations of reproductive behavior. Systematic searches will include visually inspecting vegetation, bare ground, cavities, structures, and other suitable nesting locations. Though surveys may be modified based on the experience and opinion of SDG&E's Avian Biologist, the most commonly utilized techniques are summarized as follows:

- Visually check trees, shrubs, grasses, cliffs, rocks, the ground, and man-made structures for cavities and nests within 300 feet of construction activities for passerines and other non-raptors and within 500 feet of construction activities for raptors.
- Follow adults defending a nest site or displaying territorial behavior.
- For raptors, record and follow pairs perched together.
- Follow pairs exhibiting courtship behavior, such as copulation.
- Follow adults carrying nesting materials and building a nest.
- Follow adult birds carrying other materials, such as food or fecal sacs.
- Follow calling nestlings.
- Follow adult birds making repeated flights to particular areas.
- Check tree cavities for signs of use, such as down or white wash on the rim of the cavity.
- Observe tree cavities for use by watching the entrance to determine if incubating adults are inside. In general, adult birds will leave the nest every 20 to 40 minutes to feed and conduct self-maintenance activities, or a mate will arrive to provide food.
- Check existing nests for signs of occupation, such as evidence of fresh building, presence of down, a completed nest bowl, eggs, and/or nestlings.

The following steps will be taken when a nest is identified:

- If a nest is discovered during a pre-construction survey, site-specific measures will be included in the Nest Survey Report provided to the CPUC and BLM within 48 hours and at least 72 hours prior to construction, for each surveyed area. Nests discovered during verification surveys or monitoring will be documented with a Nest Notification Form provided to the CPUC and BLM within 48 hours of discovery.
- When a nest is identified during a survey or monitoring, an Avian Biologist will determine appropriate avoidance and minimization measures. The recommended buffer

and/or any other avoidance and minimization measures will be detailed in the Nest Survey Report or Nest Notification Form.

- Buffers will be marked using signs and flagging placed at the edge of the buffer facing the work area and/or access road. Signs/flagging can increase risk of predation and will be used with caution. The signs/flagging will be labeled with the species, bearing, and distance to the nest.
- All nests will be monitored and the nest monitoring information will be entered into the pen tablet computers in the field. Information from the pen tablets will be compiled in the NML and submitted weekly via email to the CDFW and USFWS. For details of what data will be gathered and entered into the pen tablet please see Section 7.0.
- As described in Section 6.1 above, nest location and information will be recorded in the pen tablet. Biologists will exercise caution to minimize disturbance to the nest. Photographs and other documentation will be conducted away from the nest to prevent disturbance.
- If a nest of a threatened, endangered, or fully protected species is detected the WLA will be notified within 24 hours pursuant to the SAA and the Protected Species Plan.

### **6.3 STANDARD BUFFER DISTANCES**

*MM BIO-7j: The NMLs should include information necessary to allow comparison between nests protected by standard buffer widths recommended for the Project (300 feet for passerine birds, 500 feet for raptors) and nests whose standard buffer width was reduced by encroachment of Project-related activities. Standard buffer widths deemed adequate to avoid or minimize significant project-related edge effects (disturbance) on nesting birds and their nests, eggs, and chicks.*

*MM BIO-7j: SDG&E will rely on its avian biologists to determine the appropriate standard buffer widths for nests within the project corridor/footprint to employ based on the sensitivity levels of specific species or guilds of avian species. The determination of the standard buffer widths should be site- and species-/guild-specific and data-driven and not based on generalized assumptions regarding all nesting birds.*

SDG&E will rely on the assessment of its Avian Biologists to determine the appropriate buffers for each nest. Per MM BIO-7j, appropriate buffers will be determined by the SDG&E Avian Biologist and the determination of buffer widths will be site- and species-/guild-specific and data-driven and not based on generalized assumptions, and will consider the following factors:

- Nesting chronologies
- Geographic location
- Existing ambient conditions (human activity within line of sight, such as cars, bikes pedestrians, dogs, and noise)
- Type and extent of disturbance (e.g., noise levels and quality)
- Visibility of disturbance

- Duration and timing of disturbance
- Influence of other environmental factors
- Species' site-specific level of habituation to the disturbance

Standard buffer widths recommended for the Project are 300 feet for passerine birds and 500 feet for raptors. Recommended buffers will be determined on site and will be based on the factors listed above. Application of recommended buffers is expected to avoid and minimize the potential for Project-related nest abandonment and failure of fledging, and minimize any disturbance to the nesting behavior. If the Avian Biologist determines that Project activities cause or contribute to a bird being flushed from a nest or other signs of disturbance of a nesting bird at a level that has potential to cause nest failure, the buffer will be re-evaluated and revised or increased if necessary. Buffers can be a no-work buffer, or other type of buffer. For example, a buffer could allow for drive-through access, but not sustained work. Once a nest buffer is established, the monitoring frequency and construction restrictions for each nest will depend on the bird's sensitivity to disturbance from the specific work activity, as described in Section 6.5 below.

## **6.4 RAPTORS, OWLS, AND SPECIAL STATUS SPECIES**

### **6.4.0 Raptors and Owls (Excluding Eagles and Burrowing Owls)**

Several raptor (raptors and owls) species have potential to nest in proximity to the Project area. Special precautions that will be taken to avoid and minimize impacts to raptors include:

- Pre-construction raptor surveys will be conducted 500 feet beyond work areas.
- Avian Biologists will identify and recommend avoidance to ground nesting sites appropriate for northern harrier (*Circus cyaneus*) in grasslands.

#### **6.4.1 Least Bell's Vireo and Southwestern Willow Flycatcher**

Detailed information on the potential for special-status species to occur was analyzed in the EIR/EIS for the ECSP. Two federally listed avian species, southwestern willow flycatcher and least Bell's vireo, have a low potential to occur in the Project area. There is limited, low quality habitat for these species in the Project area and these species were not observed during field surveys conducted from 2008 through 2012. The MMCRP does not require specific protocol-level surveys for these species. However, if nests of either of these species are detected, a 500-foot no-work buffer will be implemented and SDG&E will consult with the WLA to determine appropriate avoidance and minimization measures. If the Project is determined to result in impacts to a state or federally listed avian species, the Project could be halted until further agency consultation.

#### **6.4.2 Golden Eagle**

Golden eagles have a high potential to forage over the Project area based on suitable habitat and known occurrences in the area. However, limited suitable nesting habitat occurs within the Project area. According to the EIR/EIS, no nesting pairs or active territories were documented in the immediate Project area during helicopter surveys conducted in 2010 and 2011. The nearest



historical nests to the Project occur at Table Mountain north of Interstate 8, approximately 1.75 to 2.5 miles north of the nearest overhead project feature<sup>7</sup> (WRI 2010a, 2010b, 2011, 2012). The MMCRP does not require protocol-level surveys for golden eagles. However, during recent Wildlife Research Institute (WRI) surveys unrelated to the Project, the Table Mountain territory was noted to be active but not productive (WRI 2012). This territory was not confirmed to be active in 2010 or 2011 (WRI 2010a, 2010b, 2011). No golden eagle avoidance or minimization measures are proposed. If golden eagles are observed, the information will be provided to the WLA within 24 hours per the SAA and the Species Protection Plan. If a golden eagle nest is detected within the Project survey areas, the WLA will be contacted immediately and a 1-mile buffer will be implemented (can be reduced to 0.5 mile if nest is not within line of sight of construction activities).

### 6.4.3 Burrowing Owl

Two burrowing owl observations were recorded during focused burrowing owl surveys conducted in January 2010 (Insignia Environmental 2010). It was concluded that the observations were of a single transient individual that was migrating through the area. The MMCRP does not require specific protocol-level burrowing owl surveys since the area does not support resident or breeding burrowing owls. However, burrows will be inspected during nest surveys for signs of use. If burrowing owl is observed, additional surveys consistent with CDFW guidance will be conducted to determine the status of occupancy of the site (California Burrowing Owl Consortium 1993). If a resident burrowing owl is present, SDG&E will implement a 250-foot (75 meter) no-work buffer during the breeding season (February 1st – August 31st) and a 160-foot (50 meter) no-work buffer during the non-breeding season (September 1st – January 31st), and consult with CDFW on further minimization and avoidance measures, and compensatory mitigation as appropriate.

## 6.5 NEST MONITORING

*MM BIO-7j - Application of the buffer widths should avoid the potential for project-related nest abandonment and failure of fledging, and minimize any disturbance to the nesting behavior. If project activities cause or contribute to a bird being flushed from a nest, the buffer must be widened.*

Nests located in proximity to active work (e.g., excavation, trenching, saw cutting, staging) will be monitored to assure that disturbance resulting from the Project does not increase the potential for nest failure.

Monitoring will be conducted by an Avian Biologist as needed to determine if the recommended buffer is effective during active work in proximity to the nest. The nest will be visited weekly at a minimum, but frequency will vary depending on construction activity. For example, frequent monitoring (e.g., daily) will occur during the initial construction work or when there is a significant change in work activity or when there are several consecutive days (3 or more) of no construction activity. If no construction activity occurs for several consecutive days at a site that supports nests, in addition to monitoring existing nests, the Avian Biologist will perform a sweep

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<sup>7</sup> The nearest project feature is the East County Substation.

of the immediate work area to ensure no new nests have been initiated. In addition to initial construction, changes in work activity and after periods of no construction, nest monitoring visits will be scheduled to occur on projected nest cycle transition dates. For example, the monitor will perform a visit on the date that the eggs are projected to hatch. In addition to Avian Biologist visits, the Environmental Inspector will note bird behavior during work and communicate findings to the Avian Biologist. All data collected by Avian Biologists will be entered into the NML. Nest monitoring will cease when the final nest determination is made (i.e., fledged or failed) or construction is complete in proximity to the nest, whichever occurs first.

Avian Biologist will be responsible for monitoring all nests that are found within the Project survey area (300 feet for passerines and other non-raptors and 500 feet for raptors). Nests that are within 150 feet for passerines and other non-raptors, and within 400 feet for raptors, will be monitored until the final nest outcome is determined (fledged or failed). All other nests will only be monitored until a final nest outcome is determined or for the duration of Project construction in proximity to the nest.

If the Avian Biologist determines that the recommended buffer is not sufficient to avoid disturbance at a level that could cause nest failure, the Avian Biologist will recommend additional measures (e.g., increased buffer width, noise or visual barriers, work intervals, allowing only specific work types) that may be implemented on a case-by-case basis to minimize impacts to nesting birds based on site-specific conditions and work requirements. Behavioral cues indicating nest disturbance such as time off the nest, hesitation approaching the nest, incessant chattering, bill swiping, or other unusual behavior, will be used by the Avian Biologist to determine buffer effectiveness. All potential sources of nest disturbance will be assessed and documented, including non-construction activities, (e.g., inter- and conspecific interactions and depredation), and non-Project-related activities (e.g., traffic and recreational activities). Details will be recorded in the NML during each visit by the Avian Biologist to indicate time on/off the nest, behavioral response, activities while off the nest, and any other information that may be helpful in assessing nest disturbance. A complete list of information that will be entered into the NML is shown in Section 7.0 below. The NML will be updated daily and submitted weekly to the WLA.

If work activities are found to result in destruction of a nest, SDG&E will notify the CPUC, BLM and the WLA within 24 hours via email. If further investigation is warranted or if all of the details are not available at the time of the initial notification (within 24 hours), additional information will be provided subsequently. Information provided will include species (if known), nest stage (if known), work activity and a photograph.

### **Specific Nest Monitoring Methods**

- Nests will be monitored from a distance using binoculars or a spotting scope whenever possible to minimize nest disturbance.
- Approaching the nest may be necessary to gather useful information about the nest stage and/or other information related to Avian Biologist determinations. When approaching a nest, the Avian Biologists will first determine whether there are any potential nest predators nearby (e.g., greater roadrunner [*Geococcyx californianus*], western scrub-jay

[*Aphelocoma californica*], Steller's jay [*Cyanocitta stelleri*], common raven [*Corvus corax*], American crow [*Corvus brachyrhynchos*], or female brown-headed cowbird [*Molothrus ater*]). If no predators are observed, the Avian Biologist will approach the nest. The Avian Biologist will remain aware of the possibility of additional, undetected nests nearby.

- Avian Biologist will gather all information needed to appropriately document nest stage and recommended buffer effectiveness. Avian Biologist will make assessments based on their experience, professional judgment and the following considerations:
  - Nesting chronologies
  - Geographic location
  - Existing ambient conditions (i.e., human activity within line of sight—cars, bikes, pedestrians, dogs, noise)
  - Work type and extent of disturbance (e.g., noise levels and quality— punctuated, continual, ground vibrations)
  - Visibility of disturbance
  - Duration and timing of disturbance
  - Influence of other environmental factors
  - Species' site-specific level of habituation to the disturbance

## 7 – REPORTING

MM BIO-7j: *A Monitoring and Reporting Plan detailing the information to be collected for incorporation into a regular Nest Monitoring Log (NML) with sufficient details to enable the USFWS and CDFW to monitor SDG&E's compliance with Fish and Game Code Sections 3503, 3503.5, 3511, and 3513.*

MM BIO-7j: *A schedule for submittal of the NML, which is usually at minimum weekly.*

MM BIO-7j: *Each nest identified in the Project area should be included in the NML. The NMLs should be updated daily and submitted to the CDFW weekly. Since the purpose of the NMLs is to allow the CDFW to track compliance, the NMLs should include information necessary to allow comparison between nests protected by standard buffer widths recommended for the Project (300 feet for passerine birds, 500 feet for raptors) and nests whose standard buffer width was reduced by encroachment of Project-related activities. The NMLs should provide a summary of each nest identified, including the species, status of the nest, buffer information, and fledge or failure data. The NMLs will allow for tracking the success and failure of the buffers and will provide data on the adequacy of the buffers for certain species.*

SDG&E will communicate the status of nests and buffer reductions on a weekly basis to WLA, BLM and CPUC through the NML and Weekly Nesting Summary. Passerine and other non-raptor nests beyond 300 feet from the Project and raptor nests beyond 500 feet from the Project will not be logged in the NML or monitored.

## 7.0 NEST MONITORING LOG

The Nest Monitoring Log will provide field data relevant to each nest observed near ECSP construction activities. Each nest will be assigned a unique identification code and will contain relevant field data collected during an Avian Biologist's nest monitoring visits.

The field data collected by Avian Biologists using the pen tablet computer is downloaded daily to a centralized database. The database will be maintained for all nests identified within the Project alignment and nesting bird buffer (300 feet for passerines and other non-raptors and 500 feet for raptors). The database is available for Project personnel scheduling construction and for Environmental Inspectors monitoring construction. The NML pulls data directly from the database. One of the primary benefits of this process is the avoidance of data transfer errors.

At a minimum, the following information will be documented in the NML for each nest:

- **Date observed**
  - The date is automatically recorded in the pen tablet during each nest check.
- **Species**
  - The species is selected by the Avian Biologist in the pen tablet. The data will transfer to the Nest Monitoring Log from the GIS database after upload from the pen tablet.
- **Status**
  - The Avian Biologist will record the nest status (e.g., nest building, incubating, brooding) in the pen tablet during a survey or nest check. The data will transfer to the Nest Monitoring Log from the GIS database after upload from the pen tablet.
- **Recommended Buffer size**
  - The Avian Biologist will determine and record the buffer size, expressed as a numerical distance in the pen tablet. The data will transfer to the Nest Monitoring Log from the GIS database after upload from the pen tablet.
- **Construction activity**
  - The Avian Biologist will record in the pen tablet the type of construction activity occurring at the time of a nest check. At the time of nest closure, the construction activities occurring over the life of the nest will be reviewed and the construction activity type with the greatest potential to adversely affect nesting behavior will be listed in the appropriate column of the Nest Monitoring Log.
  - Pick list of construction activity (work type) includes:
 

❖ BMP installing or maintenance	❖ Brushing
❖ Flagging and fencing	❖ Grading

- ❖ Excavation
- ❖ Restoration
- ❖ Foundation installation
- ❖ Pole installation
- ❖ Wire stringing
- ❖ Trenching
- ❖ Conduit installation
- ❖ Vault installation
- ❖ Concrete pouring
- ❖ Guard structure installation
- ❖ Helicopter work
- ❖ Backfilling
- ❖ Cable pulling
- ❖ Paving
- ❖ Demolition
- ❖ Traffic

- **Behavioral observations**

- The Avian Biologist will record ambient activity and avian behavior observed during a nest check. Such comments will be recorded in the pen tablet. The data will transfer to the Nest Monitoring Log from the GIS database after upload from the pen tablet and can be found in the “Survey Dates & Observations” column.

- **Nest closure date**

- The date when a nest outcome was determined (e.g., when the nestling(s) fledged) or the date monitoring was discontinued.

- **Explanation of any nest closure, including fledge or nest loss data**

- The Avian Biologist will describe how the nest outcome conclusion was reached. The description should include the assumptions used to determine the nest outcome. This data will be listed in the last observation in the “Survey Dates & Observations” column of the Nest Monitoring Log.

- **Nest outcome**

- The Avian Biologist will select one of the following nest outcomes at the end of a monitored nest cycle. Definitions of nest outcomes are included in Section 9 - Glossary.
  - ❖ Fledged
  - ❖ Nest cycle discontinued prior to egg laying
  - ❖ Construction complete, monitoring discontinued
  - ❖ Nest with eggs or young failed for unknown causes
  - ❖ Nest with eggs or young failed due to natural causes
  - ❖ Nest with eggs or young failed due to construction
  - ❖ Indeterminate
  - ❖ Removed
  - ❖ Satellite nest

- **Distance from nest to construction**

- At the end of a monitored nest cycle, the Avian Biologist will work with the

Environmental Inspectors and construction personnel, as well as review past monitoring comments to approximate the closest distance construction activity occurred from the nest. The distance will be expressed numerically in a separate column in the Nest Monitoring Log.

SDG&E and its subcontractor will conduct training for all Avian Biologists and Environmental Inspectors prior to, and during if necessary, the nesting season to promote consistency in data collection methodology.

## 7.1 WEEKLY NESTING SUMMARY

SDG&E will provide a Weekly Nesting Summary to the WLA, CPUC and BLM that includes a summary of new nests observed, closed nests, YTD nest outcomes, a summary of nests buffer distances, and a list of nesting species observed to-date.

## 8 – NESTING BIRD DETERRENT METHODS

*MM BIO-7j: All Measures SDG&E will implement to preclude birds from utilizing Project-related structures (i.e., construction equipment, facilities, or materials) for nesting.*

To minimize impacts to nesting birds, the nesting bird management strategy includes nesting bird deterrent methods within and adjacent to active construction areas, including substations and yards and in or on construction-related equipment. SDG&E may use all legally available measures to deter initiation of nest building on equipment and structures vital to project construction. This section details nesting bird deterrent methods and examples of methods that may be used for the Project. Effective deterrent methods within work areas will reduce the likelihood of avian nests becoming established on Project construction-related materials, equipment, and buildings; thereby reducing potential for impacts to nesting birds due to Project construction. All nesting bird deterrent methods will be evaluated and implemented by SDG&E or its subcontractors, and validated by CPUC, BLM, and the WLA via approval of this NBMMRP to assure compliance with the applicable mitigation measures, permits, and regulations. Nesting bird deterrent methods may include but are not limited to the following:

- Removing vegetation from the active construction area;
- Installation and daily maintenance of appropriate-sized mesh netting or tarps on construction equipment and materials in material storage, helicopter assembly and support, and contractor yards, or other Project equipment or facilities;
- Using wire spikes placed on towers, substations, or other facilities to discourage birds from perching and nesting on these structures;
- Installing visual deterrents in active construction areas, yards, and substations, and on materials and equipment. Visual deterrents will not be used in raptor nests;
- Covering staged/stored straw wattle and other potential nesting substrate in active construction areas, yards, and substations;

- Wrapping, stuffing, or covering ends of pipes or other materials within which birds could nest;
- Using colored gravel, such as red or white, in active construction areas, yards, and substations; and/or
- Managing construction yard trash in a manner that reduces potential point food sources in active construction areas, yards, and substations.

Specific locations for the use of exclusionary or deterrent devices will be determined in coordination with SDG&E and the Avian Biologist. SDG&E will request concurrence from CDFW for any deterrents proposed that are not detailed in this section. All nesting deterrents below are intended to prevent nesting attempts and do not include the use of devices that prevent nesting from continuing once a nest is built.

The deterrent methods listed below, either on their own or in combination with other measures, can be effective in discouraging bird nesting within and immediately adjacent to construction areas. The effectiveness of deterrents will be evaluated for the duration of construction and adapted accordingly based on input from Avian Biologists and SDG&E. At the end of the Project SDG&E will submit a summary of the deterrents used and perceived effectiveness.

## **8.0 NESTING HABITAT REDUCTION**

Removing potential nesting habitat is the first component in effectively excluding nesting birds within a construction area. To the extent feasible prior to the onset of the nesting bird season, construction areas will be cleared of vegetation and grubbed as appropriate to reduce potential conflicts between construction activities and nesting birds during the breeding season. Vegetation removal both during and outside of breeding season, may include removal of trees, shrubs, and herbaceous species. Prior to vegetation clearance within the nesting bird season, an Avian Biologist will conduct a preconstruction survey for nesting birds. Although vegetation free construction areas are ideal for limiting nesting bird activities, vegetation removal will be limited to the approved work area and/or staging area and SDG&E will avoid excessive clearing.

### **8.1 NESTING DETERRENTS**

#### **8.1.0 Mesh Netting**

Use of mesh netting to cover equipment, stored materials and equipment, and partially constructed facilities helps prevent birds from accessing potential nesting sites within the construction areas. Inspections and maintenance of netting will be performed daily to avoid impacts to birds and other wildlife species.

Netting can be specially ordered for this purpose from a number of companies including: USA Bird Control (<http://www.usabirdcontrol.com/>), Nylon Net Co. (<http://www.nylonnet.com/>), and Nixalite (<http://www.nixalite.com/birdnetting.aspx>).

The size of the mesh grid can vary depending on the sizes of birds that are being excluded. Given the diversity of birds that could nest within construction areas across the East County Substation

Project corridor, a 0.75-inch sized mesh may be suitable for excluding the greatest number of birds, including small birds such as house finches (*Haemorhous mexicanus*) and swallows.

To increase the effectiveness of the mesh netting as a bird exclusion device, equipment or other objects will be completely covered leaving no gaps in the netting through which birds could enter and build a nest under the netting. Mesh netting will be inspected daily to identify and repair any rips or gaps in the netting that could permit birds to pass through, and to look for wildlife that may have become trapped in the netting. If wildlife are observed inside or trapped in the mesh netting, the Environmental Inspector will be contacted immediately. The Biological Monitor will also inspect netting during monitoring to assure that birds or other wildlife have not become trapped under the netting. Care will be taken to avoid excessive netting on the ground to minimize potential for lizard and snakes to become entangled. Notification to CPUC, BLM, and WLAs of all animal entrapment will be done weekly in the monitoring log summary.

### **8.1.1 Tarps**

Instead of netting, where practical, equipment and materials can be covered with tarps; however, tarps must be tied down firmly to secure them against strong winds, and will not be open at the bottom because some species, rock wrens (*Salpinctes obsoletus*) in particular, will access the equipment or material from the bottom. Tarps will be inspected at least once per week to identify and correct any openings that may allow cavity-nesting bird species to enter. If openings are found, the tarps will be inspected for trapped wildlife before re-closure.

### **8.1.2 Bird Spikes**

Use of plastic or stainless steel spikes can be effective in discouraging birds from landing on structures and thus deterring nest establishment. Bird spikes typically consist of groupings of stainless steel or UV-resistant polycarbonate spikes that are spaced in such a way as to prevent birds from landing and gaining a foothold on the surface to which the spikes are adhered.

Bird spikes can be specially ordered for this purpose from a number of companies including: USA Bird Control and Bird-B-Gone (<http://birdbgone.com/>).

Bird spikes are designed to be affixed to structures to provide longer-term deterrents to birds. Therefore, use of bird spikes may be more practical to deter nesting on poles/structures and within substations. Such devices are not likely practical for use on equipment, material storage areas, or contractor yards. Installation of bird spikes on tower structures concurrent with structure construction may discourage birds from nesting on tower structures during construction.

### **8.1.3 Visual Deterrents**

There are a wide variety of visual deterrents that can be used to discourage birds from nesting. Visual deterrents can be affixed to construction equipment, around the perimeter of storage yards, or on towers or other facilities as appropriate, to scare birds from the area, thereby reducing the likelihood of nesting. Visual deterrents will not include reflective ribbon.



#### **8.1.4 Material and Pipe Covers**

Sheltered spaces such as pipes or stacks of stored materials provide potential nesting sites for some birds. To reduce the likelihood that birds will build nests in these areas materials can be covered with mesh netting or tarps (discussed above) or pipe covers. Routinely covering equipment and stored materials is a standard management practice that can be effective in deterring birds from nesting in these areas.

Yards often contain suitable nesting materials or opportunities for birds. For example, straw waddles can be attractive to birds, as they provide excellent nesting material for a wide range of species. Birds attracted to this source of nest material may be more likely to build a nest in close proximity to these stored materials (e.g., within a yard). To reduce the likelihood for nesting in yards waddles and similar stored material will be covered.

#### **8.1.5 Colored Gravel**

Use of colored gravel in construction areas that would typically be rocked and maintained for a long term (e.g., in yards and substations) can be effective in discouraging ground nesting birds. The eggs of ground nesting birds are patterned in a manner to be camouflaged against naturally colored substrates such as soil or pebbles. By covering the ground surface with colored gravel that contrasts sharply with the color of the birds' eggs, ground-nesting birds can be effectively discouraged from nesting in such locations.

#### **8.1.6 Trash Management**

Although not a specific deterrent, management of trash in and around construction areas is important in reducing the potential for these areas to attract birds. Trash from food waste can provide an attractive food source for birds thereby increasing the likelihood of them nesting within construction areas. Effective management of food waste and other trash will be important to avoid attracting birds to construction areas. Such management measures will include daily removal of trash from the remote sites and covering trash bins located at stationary sites with tightly fitting lids.

### **8.2 NEST REMOVAL**

SDG&E acknowledges that CDFW cannot approve nest removals because it may conflict with Fish and Game Code 3503. Specifically, the code states “is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird....” It is therefore incumbent upon SDG&E to make its own determination as to whether the removal of a nest is needless within the meaning of Section 3503. When making those determinations, SDG&E does not expect nor will it seek prior approval or guidance from CDFW. CDFW's approval of this document does not give SDG&E CDFW's approval to remove nests.

SDG&E will utilize the measures discussed in this section (Section 8 - Nesting Bird Deterrent Methods) to minimize occurrences of nest initiation on construction equipment, stored materials, construction-related structures, and construction yards where nest building would preclude construction activities. Even with these measures implemented, avian species may successfully initiate nest attempts in construction areas, or on structures or equipment related to the Project. In situations where nests have been initiated despite implementation of deterrent methods,

SDG&E will conduct all feasible means to allow the nest to remain without precluding construction.

For situations where SDG&E may find it necessary to remove nests that do not fall under the aforementioned criteria, SDG&E shall not remove nests without prior notification to the CPUC and BLM. Contact methods may include telephone, cell phone text messaging, and email. The Avian Biologist shall provide the CPUC/BLM with information regarding bird deterrent methods in place, species, location of the nest, nest stage, observed nesting behavior, observation times and duration, and other, species-specific information relevant to determining nest stage.

## 9 – GLOSSARY

**Active work:** Activities related to the construction of the Project that have been occurring continuously (daily) or semi-continuously (at least once week). Activities generally include work that requires motorized equipment and/or hand tools.

**Closed nest:** A nest that is no longer an active nesting attempt; a nest whose nest outcome is fledged, was discontinued prior to egg laying, failed, was removed, was determined to be a satellite or inactive nest, or is indeterminate.

**Depredation:** The loss of a nest due to destruction, dislodgement, or other physical disturbance.

**Fledge:** To leave the nest; a nest that fledged one or more young. Example observations the Avian Biologist will use to reach such a determination would include: an intact and empty nest supported by a sufficient duration of time for that species to indicate fledging; semi-altricial fledglings in the area supported by a sufficient duration of time for that species to indicate fledging; symmetrically broken egg shells supported by a sufficient duration of time for that species to indicate fledging; etc.

**Fledgling:** A young bird that has just fledged. Both altricial and precocial young normally remain at least partly dependent on adults for survival for some time after fledging.

**Incubate:** To sit upon eggs for the purpose of hatching. Incubation maintains the proper temperature for growth of embryos and provides some protection. Some species incubate starting with the first egg (e.g., raptors) while others provide only limited incubation until all eggs are laid (most birds), ensuring that all young hatch around the same time.

**Indeterminate:** A nest with eggs or young for which a fledge-or-fail outcome could not be confirmed. An example of such a scenario is when the natural destruction of a nest occurs close to its anticipated fledge date, but the Avian Biologist is unable to determine which event occurred first.

**Construction complete, monitoring discontinued:** Typically monitoring will cease if construction is complete. A final monitoring visit will occur to report condition of nest when monitoring was discontinued.

**Nest abandonment:** Abandonment of a nesting effort by birds, resulting in a nest that is no longer being constructed, or utilized for nesting. Typically, that nest site will no longer be visited by those individual birds that season.

**Nesting attempt:** A nesting attempt is any breeding behavior that includes nest construction, incubation, and egg-laying through fledging or nest failure.

**Nest exchange:** When one adult of a pair leaves the nest immediately prior to the other adult taking over nest attendance. Note that this occurs only in some species. In many species males do not attend the nest, but in some of these the male will bring food to the female on the nest.

**Nestling:** A bird that has hatched but is not yet old enough to leave the nest. In precocial species, this period can be very brief.

**Nest with eggs or young failed due to construction:** A nest with eggs or young with a cause of failure that was project related. Example observations the Avian Biologist will use to reach such a determination may include: A piece of construction equipment that inadvertently dislodges a nest by contacting the nest substrate, causing its eggs to shatter; a fledgling that was struck and killed by a Project vehicle at a work site; etc.

**Nest with eggs or young failed due to natural causes:** A nest with eggs or young with a cause of failure that was determined to be an act of nature (e.g., predation, weather). Example observations the Avian Biologist will use to reach such a determination may include: A nest following a storm event where the nesting material is overly saturated or worn or where pooling water has occurred (for ground nesting species); signs of predation such as an abandoned nest with missing eggs or nestlings, broken shells or remains near a nest site, or an intact nest site and contents with adult bird prey remains nearby; etc.

**Nest with eggs or young failed for unknown causes:** A nest with eggs or young with an indeterminate cause of failure. When such failure cannot be directly attributed to either natural causes or to Project construction, the Avian Biologist would determine that the failure is due to unknown causes. An example of this may be an abandoned nest, intact, with all contents present prior to its anticipated fledge date.

**Non-native bird:** A member of a species not naturally occurring in California. Non-native birds are not covered by the MBTA, but may be covered under Fish and Game Code. Many non-native species occur in California as escaped cage birds or intentionally released species. Examples of common non-native species considered to have established populations in southern California include ring-necked pheasant (*Phasianus colchicus*), chukar (*Alectoris chukar*), wild turkey (*Meleagris gallopavo*), rock pigeon (*Columba livia*), Eurasian collared-dove (*Streptopelia decaocto*), spotted dove (*Streptopelia chinensis*), red-crowned parrot (*Amazona viridigenalis*), European starling (*Sturnus vulgaris*), house sparrow (*Passer domesticus*), orange bishop (*Euplectes franciscanus*), and nutmeg manikin (*Lonchura punctulata*).

**Pair:** One male mated to one female. Note that this only applies to monogamous pairs, which is the most common type of bonding in birds; however, many species have other types of bonding. In addition, in some species the female alone will build the nest and raise the young (e.g., hummingbirds).

**Predation:** The loss of a nest due to the adults, eggs, or nestlings being consumed by a predator; capturing and consuming prey.

**Satellite Nest:** A nest that was not used to shelter eggs or rear young, but was possibly constructed or maintained for attracting mates, intimidating competition, or deterring predators.

**Territory:** The area an animal actively defends from activities by other members of its own or other species (typically, except for its own mate). Most birds have some form of territory, but it may be only seasonal, may be just the immediate nest site (e.g., in colonially nesting species),

may involve excluding only members of the same sex and species, or may be essentially the entire home range.

**Unoccupied nest:** A nest that does not contain eggs or nestlings.

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**ATTACHMENT A: NEST SURVEY REPORT AND NEST NOTIFICATION FORMS**



# Nest Survey Report

Date:

Biologist(s):

Survey Area and Structure List:

**Complete Survey Coverage Achieved: Yes:**  **No:**

Details of Modifications to the Survey Area (if any):

Proposed Construction:

**Vegetation Clearing Required: Yes:**  **No:**

Environmental Data:

**Start**

**End**

**Survey Time (24 hr):**

**Temperature (°F):**

**Wind Speed (mph):**

**Cloud Cover (%):**

**Precipitation Type:**

**Duration:**

Habitat(s) and Vegetation Description:

**Suitable Raptor Nesting Habitat: Yes:**  **No:**

## Survey Results

New Nest(s) Located:

<b>Nest ID</b>	<b>Species</b>	<b>Nest Stage</b>	<b>Observation</b>
<i>03012012_mbhn_01</i>	<i>HOFI</i>	<i>Nestling(s)</i>	<i>Both adults were observed visiting a nest in the rear wheel of an elevated water tank. Nestlings were heard vocalizing.</i>

All Avian Species Observed:

Established Nest Buffer and Justification

<b>Nest ID:</b>		<b>Species:</b>		<b>Location:</b>	
Nest Initiated Adjacent to Active Work Site: Yes: <input type="checkbox"/> No: <input type="checkbox"/>					
<b>Nest Stage:</b>		<b>Distance to Work (ft.):</b>		<b>Established Buffer (ft.):</b>	
<b>Justification of Buffer:</b>					

This **table** must include the following categories: 1) **Distance(s):** of tolerated encroachment and/or flush distance; Distance from currently existing human/disturbance/work if applicable, etc., 2) **Behavioral:** (i.e., response to encroachment, time from flush to return to nest and/or nesting behavior(s); nest/nesting behavior progression during ongoing activity if applicable; nest affinity – breeding site investment, etc., 3) **Nest:** (i.e., substrate, location, type creating any line-of-site, acoustic buffer(s) to Project activity; completeness %, etc.).

# Nest Notification Form

Date:

Biologist(s):

**Detected During:**      **Verification Survey:**     **Monitoring:**

Proposed or Ongoing Construction:

Established Nest Buffer and Justification

<b>Nest ID:</b>	<b>Species:</b>	<b>Location:</b>	
Nest Initiated Adjacent to Active Work Site: Yes: <input type="checkbox"/> No: <input type="checkbox"/>			
<b>Nest Stage:</b>	<b>Distance to Work (ft.):</b>	<b>Established Buffer (ft.):</b>	<b>Justification of Buffer:</b>

*This **table** must include the following categories: 1) **Distance(s):** of tolerated encroachment and/or flush distance; Distance from currently existing human/disturbance/work if applicable, etc., 2) **Behavioral:** (i.e., response to encroachment, time from flush to return to nest and/or nesting behavior(s); nest/nesting behavior progression during ongoing activity if applicable; nest affinity – breeding site investment, etc., 3) **Nest:** (i.e., substrate, location, type creating any line-of-site, acoustic buffer(s) to Project activity; completeness %, etc.).*

**ATTACHMENT A: RAPTOR NESTING PROTOCOL**



## **ATTACHMENT A: RAPTOR NESTING PROTOCOL**

This attachment to the San Diego Gas & Electric Company (SDG&E) East County Substation Project's Avian Protection Plan describes the protocol to be used to determine nesting status of raptor nests located on or near existing facilities.

Raptor nests will be considered active if there are eggs or young in the nest as described previously, however; raptor nests will be considered "currently in use" if any of these criteria are observed: raptors building a new nest or maintaining an existing nest; raptors within a nest; or raptor breeding behavior near a nest. A nest will be considered currently in use until at such time the raptors are observed using another nest, the nesting attempt has failed, or it is clear for some other tangible reason that the pair is not breeding.

The following monitoring procedures will be implemented by SDG&E's approved avian biologists to determine if a raptor nest is, or is not, currently in use:

- Avian biologist(s) will watch the raptor nest for four hours during daylight hours (i.e., dawn to dusk) for three consecutive days. The avian biologist(s) will document the species, gender, age, and behaviors of any raptor observed in the vicinity of the nest.
- Avian biologist(s) will use spotting scopes and/or binoculars to passively observe the nest and will observe the nest from a vantage point at least 500 feet from the nest.

If these procedures have been followed, and after three consecutive days none of the criteria for a nest that is currently in use is met, the nest can be considered unoccupied or not currently in use.





**ATTACHMENT B: POST-CONSTRUCTION AVIAN MORTALITY MONITORING**



## **ATTACHMENT B: POST-CONSTRUCTION AVIAN MORTALITY MONITORING**

San Diego Gas & Electric Company (SDG&E) will perform post-construction avian mortality monitoring within the right-of-way (ROW) of the new 138 kilovolt (kV) overhead transmission line and poles (utilities) constructed as a component of the East County Substation Project (Project). Mortality monitoring will be conducted during the first year of Project energization. The purpose of the monitoring is to count, identify, and document dead avian individuals beneath the new utilities. Although data will be collected for all avian mortalities detected during the monitoring, the methods were developed to maximize dead raptor encounters. The information collected may be used by SDG&E and United States Fish and Wildlife Service (USFWS) to verify electrocutions and collisions, identify high mortality areas, and add to existing data to direct future criteria, protocols, and design related to avian conservation. The data will be provided to USFWS following the completion of the monitoring. This monitoring protocol may be adapted with concurrence from USFWS.

### **Methods**

The monitoring will consist of surveys traversing the entire ROW of the 138 kV overhead transmission line (approximately 7 miles), and documenting all bird carcasses and feather spots. The ROW is approximately 100 feet wide (50 feet on either side of the center phase). Monitoring will be conducted twice a month for one year (12 months) following energization of the transmission line. A total of 24 monitoring visits will be conducted.

Surveys will be conducted by teams of two biologists (one designated to each side of the center line) walking in a zigzag pattern throughout the ROW to ensure full coverage. In addition to searching the ground and vegetation, biologists will use binoculars every 200 feet to examine the overhead wires and poles for any evidence that a bird has collided with the wires but not detected within the search area.

When a bird carcass or feather spot (specimen) is found, searchers will record the specimen number; species (when or if determined); date; location (including exact distance from nearest pole); condition; time; weather conditions; photo identification; plus any additional comments. All specimens will be photographed to avoid double counting. Specimens will be identified to species whenever possible. In some cases, scavenged carcasses may appear as feather spots. If necessary, ornithologists will be consulted to assist with species identification.

### **Reporting**

All data collected, including tabular data, photographs, and location maps, will be provided to USFWS in a summary report after monitoring is completed. If any deceased special status avian species are found, the appropriate agency will be notified. If eagle species are discovered, SDG&E will coordinate with USFWS to have the carcasses collected under an appropriate permit.