

Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP)

Genesis Solar Energy Project Eastern Riverside County, California

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PREFACE

This Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP) for the Genesis Solar Energy Project (Project) complies with the Biological Resources Condition of Certification (COC) BIO-7, as required by the California Energy Commission’s (CEC) Final Decision issued in September 2010 (CEC-800-2010-011-CMF, 09-AFC-8) and the Bureau of Land Management’s Record of Decision issued in October 2010. The purpose of the BRMIMP is to identify all mitigation, monitoring, and compliance measures related to biological resources that will be implemented during Project construction and operation. Table 1 identifies each COC (BIO-1 through BIO-29) and the location of each measure within this document.

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ABBREVIATIONS AND ACRONYMS

AO	Authorized Officer
APLIC	Avian Power Line Interaction Committee
BEPTL	Blythe Energy Project Transmission Line
BLM	Bureau of Land Management
BM	Biological Monitor
BMP	best management practice
BRMIMP	Biological Resources Mitigation Implementation and Monitoring Plan
CDFG	California Department of Fish and Game
CEC	California Energy Commission
CESA	California Endangered Species Act
CNDDB	California Natural Diversity Database
COC	Condition of Certification
CPM	Compliance Project Manager
CRS	Colorado River Substation
DB	Designated Biologist
dBA	decibels, A-scale
ECM	Environmental Compliance Manager
ESA	Environmentally Sensitive Area
Genesis Solar	Genesis Solar, LLC
I-10	Interstate 10
MCR	Monthly Compliance Report
MW	megawatt
PAR	Property Analysis Record
Project	Genesis Solar Energy Project
REAT	Renewable Energy Action Team
TBD	to be determined
USC	United States Code
USFWS	U.S. Fish and Wildlife Service
WEAP	Worker Environmental Awareness Program

1.0 INTRODUCTION

Genesis Solar, LLC (Genesis Solar) a wholly owned subsidiary of NextEra Energy Resources, LLC, is proposing to develop a 250-megawatt (MW) solar thermal power generating facility located in Riverside County, CA, between the community of Desert Center and the city of Blythe. The Genesis Solar Energy Project (Project) is located on land managed by the Bureau of Land Management (BLM) (Figure 1). The Project Disturbance Area, which includes both permanent and temporary disturbance, will be approximately 1,819.5 acres, which includes approximately 1,727 acres for the Plant Site and approximately 92.5 acres for Linear Facilities. The Plant Site includes the solar arrays, power blocks, power generating equipment, support facilities, and evaporation ponds. The Linear Facilities include a transmission line, distribution line, natural gas pipeline, and a main access road that would be mostly co-located for approximately 6.5 miles (Figure 2).

1.1 Project Description

The Project is a concentrated solar electric generating facility which uses parabolic trough technology. The Project consists of two independent concentrated solar electric generating facilities (a.k.a. power plants or Plant Site) with a nominal net electrical output of 125 MW each, for a total net electrical output of 250 MW. Electrical power would be produced using steam turbine generators fed from solar steam generators. The solar steam generator receives heated heat transfer fluid from solar thermal equipment comprised of arrays of parabolic mirrors that collect energy from the sun.

The Project will use dry cooling for power plant cooling. In dry-cooling systems, fans blow air over a radiator system to remove heat from the system via convective heat transfer (instead of once-through cooling or evaporative heat transfer). In the direct dry-cooling system, also known as an air-cooled condenser, steam from the steam turbine exhausts directly to a manifold radiator system that rejects heat to the atmosphere, condensing the steam inside the radiator. Project cooling water blowdown will be piped to lined, onsite evaporation ponds.

Each 125 MW unit will have two to four double-lined evaporation ponds located within the Plant Site. Each pond will have a nominal surface area of one to three acres. The total acreage required for evaporation ponds for the dry-cooled alternative will be approximately 10 acres for both 125 MW units. The average pond depth will be approximately 8 feet and residual precipitated solids will be removed approximately every seven years to maintain a solids depth no greater than approximately three feet for operational and safety purposes. The ponds will be designed and permitted as Class II Surface Impoundments in accordance with Colorado River Regional Water Quality Control Board requirements, as well as the requirements of the California Integrated Waste Management Board. Each pond will have enough surface area so the evaporation rate exceeds the cooling tower blowdown rate at maximum design conditions and annual average conditions.

A transmission line (also referred to as a generation tie-line), distribution line, access road, and a natural gas pipeline will be co-located in one linear corridor to serve the Plant Site. A primary fiber-optic communication line will be mounted on the transmission line poles. A secondary fiber-optic communication line will be mounted on the distribution line poles and/or buried underground within existing, disturbed access/maintenance roads. The generation tie-line would extend an additional mile to the south, cross Interstate 10 (I-10), and tie into the Blythe Energy

Project Transmission Line (BEPTL). The generation tie-line would extend an additional mile to the south, cross I-10, and use the existing pole structures of the BEPTL to interconnect with Southern California Edison's Colorado River Substation (CRS) to the east. To tie into the CRS, there will be six new transmission line poles from the BEPTL to the CRS.

1.2 Project Schedule

Project construction is expected to occur over a total of approximately 37 months. Project construction will begin in the fourth quarter of 2010, with commercial operation expected to commence in the second quarter of 2013 for the first 125 MW unit and the second quarter of 2014 for the second 125 MW unit. Table 2 provides estimates for key Project events.

Table 2. Genesis Solar Project Key Events List

Event Description	Date ¹
Certification Date	September 29, 2010
Obtain Site Control	to be determined (TBD)
Online Date	TBD
Groundwater Well Activities (phase 1)	
Pre-Construction Groundwater Monitoring	November 1, 2010
Mobilization to Existing Well near I-10	December 1, 2010
Distribution Line to Test Well	December 1, 2010
Conversion of Test Well	December 5, 2010
Access Road Activities (phase 1)	
Start Site Mobilization for Access Road	January 16, 2011
Start Ground Disturbance (Grading)	January 17, 2011
Paving	February 28, 2011
Start Distribution Line to Plant Site	January 17, 2011
Pre-Construction Clearance Surveys: Bio & Cultural (Phase 1)	
Mobilize Desert Tortoise Fence Contractor at Plant Site (phase 1)	January 17, 2011
Erect Desert Tortoise Fence	January 19, 2011
Conduct Desert Tortoise Clearance Surveys	March 1, 2011 ²
Power Plant Site Activities (Phase 2)	
Start Site Mobilization for Plant Site	May 1, 2011
Start Grading and Ground Disturbance	May 27, 2011
Start Construction	May 27, 2011
Begin Pouring Major Foundation Concrete	July 26, 2011
Begin Installation of Major Equipment	July 1, 2011
Completion of Installation of Major Equipment (Unit 1)	November 1, 2012
Completion of Installation of Major Equipment (Unit 2)	December 23, 2013
Obtain Building Occupation Permit	TBD
Start Commercial Operation (Unit 1)	May 1, 2013
Start Commercial Operation (Unit 2)	April 1, 2014
Complete All Construction	July 1, 2014
Transmission Line Activities	
Start Transmission Line Construction	July 25, 2012
Synchronization with Grid Interconnection	January 2, 2013
Complete Transmission Line Construction	December 31, 2012
Fuel Supply Line Activities	
Start Gas Pipeline Construction and Interconnection	July 5, 2011
Complete Gas Pipeline Construction	September 5, 2011

¹ Dates are approximate and are subject to change as the detailed schedule is developed.

² Desert tortoise clearance surveys will take place when tortoises are active; surveys prior to April 1 will require USFWS approval

1.3 Summary of Biological Resources

Comprehensive biological resource surveys were conducted of the Project Disturbance Area and vicinity in 2009 and 2010. Special-status species known to occur or potentially occurring in the Project Area are presented in Table 3 (from California Energy Commission [CEC] 2010). A detailed summary of the biological resource surveys and the species that occur and are likely to occur can be found in Appendix A. The observation locations of the special-status species and jurisdictional waters can be found on the figures in Figures 3a, 3b, 4a, and 4b.

Table 3. Special-Status Species Known or Potentially Occurring in the Project Area (from CEC 2010)

Common Name	Scientific Name	Status State/Fed/CNPS/BLM/ Global Rank/State Rank
Plants		
Chaparral sand verbena	<i>Abronia villosa</i> var. <i>aurita</i>	__/_/1B.1/__/G5T3T4/S2 .1
Angel trumpets	<i>Acleisanthes longiflora</i>	__/_/2.3/__/G5/S1.3
Desert sand parsley	<i>Ammoselinum giganteum</i>	__/_/2.3/__/G2G3/SH
Small-flowered androstephium	<i>Androstephium breviflorum</i>	__/_/2.2/__/G5/S2
Harwood's milk-vetch	<i>Astragalus insularis</i> var. <i>harwoodii</i>	__/_/2.2/__/G5T3/S2.2?
Coachella Valley milk-vetch	<i>Astragalus lentiginosus</i> var. <i>coachellae</i>	__/_/FE/1B.2./S/G5T2/S2.1
California ayenia	<i>Ayenia compacta</i>	E/__/2.3/__/G4/S3.3
Pink fairy duster	<i>Calliandra eriophylla</i>	__/_/2.3/__/G5/S2.3
Sand evening-primrose	<i>Camissonia arenaria</i>	__/_/2.2/__/G4?/S2
Crucifixion thorn	<i>Castela emoryi</i>	__/_/2.3/__/G3/S2.2
Abram's spurge	<i>Chamaesyce abramsiana</i>	__/_/2.2/__/G4/S1.2
Arizona spurge	<i>Chamaesyce arizonica</i>	SR/__/2.3/__/G5/S1.3
Flat-seeded spurge	<i>Chamaesyce platysperma</i>	__/_/1B.2/S/G3/S1.2?
Las Animas colubrina	<i>Colubrina californica</i>	__/_/2.3/__/G4/S2S3.3
Spiny abrojo/bitter snakeweed	<i>Condalia globosa</i> var. <i>pubescens</i>	__/_/4.2/__/G5T3T4/S3. 2
Foxtail cactus	<i>Coryphantha alversonii</i>	__/_/4.3/__/G3/S3.2
Ribbed cryptantha	<i>Cryptantha costata</i>	__/_/4.3/__/G4G5/S3.3
Winged cryptantha	<i>Cryptantha holoptera</i>	__/_/4.3/__/G3G4/S3?
Wiggins' cholla	<i>Cylindropuntia wigginsii</i> (syn= <i>Opuntia wigginsii</i>)	__/_/3.3/__/G3?/Q/S1.2?
Utah vining milkvine	<i>Cynanchum utahense</i>	__/_/4.2/__/G4/S3.2
Glandular ditaxis	<i>Ditaxis claryana</i>	__/_/2.2/__/G4G5/S1S2
California ditaxis	<i>Ditaxis serrata</i> var. <i>californica</i>	__/_/3.2/__/G5T2T3/S2. 2
Harwood's eriastrum	<i>Eriastrum harwoodii</i>	__/_/1B.2/__/G2/S2
California satintail	<i>Imperata brevifolia</i>	__/_/2.1/__/G2/S2.1
Pink velvet mallow	<i>Horsfordia alata</i>	__/_/4.3/__/G4/S3.3
Bitter hymenoxys	<i>Hymenoxys odorata</i>	__/_/2/__/G5/S2
Spearleaf	<i>Matelea parvifolia</i>	__/_/2.3/__/G5?/S2.2
Argus blazing star	<i>Mentzelia puberula</i>	__/_/__/__/__/__
Slender woolly-heads	<i>Nemacaulis denudata</i> var. <i>gracilis</i>	__/_/2.2/__/G3G4T3?/S2 S3
White-margined penstemon	<i>Penstemon albomarginatus</i>	__/_/1B.1/S/G2/S1
Lobed cherry	<i>Physalis lobata</i>	__/_/2.3/__/G5/S1.3
Desert portulaca	<i>Portulaca halimoides</i>	__/_/4.2/__/G5/S3
Desert unicorn plant	<i>Proboscidea althaeifolia</i>	__/_/4.3/__/G5/S3.3
Orocopia sage	<i>Salvia greatae</i>	__/_/1B.3./S/G2/S2.2
Desert spikemoss	<i>Selaginella eremophila</i>	__/_/2.2./__/G4/S2.2?
Cove's cassia	<i>Senna covesii</i>	__/_/2.2/__/G5?/S2.2
Mesquite nest straw	<i>Stylocline sonorensis</i>	__/_/1A/__/G3G5/SX

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Common Name	Scientific Name	Status State/Fed/CNPS/BLM/ Global Rank/State Rank
Dwarf germander	<i>Teucrium cubense</i> ssp. <i>depressum</i>	__/_/2.2/__/G4G5T3T4/ S2
Jackass clover	<i>Wislizenia refracta</i> ssp. <i>refracta</i>	__/_/2.2/__/G5T5?/S1.2 ?
Palmer's jackass clover	<i>Wislizenia refracta</i> ssp. <i>palmeri</i>	__/_/?/__/__
Wildlife		
Reptiles/Amphibians		
Desert tortoise	<i>Gopherus agassizii</i>	ST/FT
Couch's spadefoot toad	<i>Scaphiopus couchii</i>	CSC/__/BLM Sensitive
Mojave fringe-toed lizard	<i>Uma scoparia</i>	CSC/BLM Sensitive
Desert rosy boa	<i>Charina (Lichanura) trivirgata</i>	__/_
Birds		
Western burrowing owl	<i>Athene cunicularia hypugaea</i>	CSC/BCC/BLM Sensitive
Golden eagle	<i>Aquila chrysaetos</i>	CFP/__/BLM Sensitive
Short-eared owl	<i>Asio flammeus</i>	CSC
Ferruginous hawk	<i>Buteo regalis</i>	WL/BLM Sensitive
Swainson's hawk	<i>Buteo swainsoni</i>	ST
Prairie falcon	<i>Falco mexicanus</i>	WL
American peregrine falcon	<i>Falco peregrinus anatum</i>	SFP
Vaux's swift	<i>Chaetura vauxi</i>	CSC
Mountain plover	<i>Charadrius montanus</i>	CSC/__/BLM Sensitive
Northern harrier	<i>Circus cyaneus</i>	CSC
Gilded flicker	<i>Colaptes chrysoides</i>	SE
Yellow warbler	<i>Dendroica petechia sonorana</i>	CSC
California horned lark	<i>Eremophila alpestris actia</i>	WL
Yellow-breasted chat	<i>Icteria virens</i>	CSC
Loggerhead shrike	<i>Lanius ludovicianus</i>	CSC/BCC
Gila woodpecker	<i>Melanerpes uropygialis</i>	SE
Black-tailed gnatcatcher	<i>Polioptila melanura</i>	__/_
Purple martin	<i>Progne subis</i>	CSC
Vermilion flycatcher	<i>Pyrocephalus rubinus</i>	CSC
Brewer's sparrow	<i>Spizella breweri</i>	BCC
Bendire's thrasher	<i>Toxostoma bendirei</i>	CSC/__/BLM Sensitive
Crissal thrasher	<i>Toxostoma crissale</i>	CSC
Le Conte's thrasher	<i>Toxostoma lecontei</i>	WL/BCC/Sensitive
Mammals		
Pallid bat	<i>Antrozous pallidus</i>	CSC/__/BLM Sensitive
Townsend's big-eared bat	<i>Corynorhinus townsendii</i>	CSC/__/BLM Sensitive
Spotted bat	<i>Euderma maculatum</i>	CSC/__/BLM Sensitive
Western mastiff bat	<i>Eumops perotis californicus</i>	CSC/__/BLM Sensitive
Hoary bat	<i>Lasiurus cinereus</i>	__/_
California leaf-nosed bat	<i>Macrotus californicus</i>	CSC/__/BLM Sensitive
Arizona myotis	<i>Myotis occultus</i>	CSC
Cave myotis	<i>Myotis velifer</i>	CSC/__/BLM Sensitive
Yuma myotis	<i>Myotis yumanensis</i>	__/_/BLM Sensitive
Colorado Valley woodrat	<i>Neotoma albigula venusta</i>	__/_
Pocket free-tailed bat	<i>Nyctinomops femorosaccus</i>	CSC
Big free-tailed bat	<i>Nyctinomops macrotis</i>	CSC
Burro deer	<i>Odocoileus hemionus eremicus</i>	__/_/

Common Name	Scientific Name	Status State/Fed/CNPS/BLM/ Global Rank/State Rank
Nelson's bighorn sheep	<i>Ovis canadensis nelson</i>	___/BLM Sensitive
Yuma mountain lion	<i>Puma concolor browni</i>	CSC
American badger	<i>Taxidea taxus</i>	CSC
Desert kit fox	<i>Vulpes macrotis arsipus</i>	___/___

Bold type indicates species or their sign as observed during field surveys.

Status Codes:

Federal FE = Federally listed endangered: species in danger of extinction throughout a significant portion of its range
 FT = Federally listed, threatened: species likely to become endangered within the foreseeable future
 BCC: Fish and Wildlife Service: Birds of Conservation Concern: Identifies migratory and non-migratory bird species (beyond those already designated as federally threatened or endangered) that represent highest conservation priorities <www.fws.gov/migratorybirds/reports/BCC2002.pdf>

State CSC = California Species of Special Concern Species of concern to CDFG because of declining population levels, limited ranges, and/or continuing threats have made them vulnerable to extinction.

SE = State listed as endangered

ST = State listed as threatened

CFP = California Fully Protected

WL = State watch list

SR = State-listed rare; Plant species listed as rare under the California Native Plant Protection Act (Fish and Game Code §1900 et seq.). A plant is rare when, although not presently threatened with extinction, the species, subspecies, or variety is found in such small numbers throughout its range that it may be endangered if its environment worsens (Fish and Game Code §1901)

California Native Plant Society

List 1B = Rare, threatened, or endangered in California and elsewhere

List 2 = Rare, threatened, or endangered in California but more common elsewhere

List 3 = Plants which need more information

List 4 = Limited distribution – a watch list

0.1 = Seriously threatened in California (high degree/immediacy of threat)

0.2 = Fairly threatened in California (moderate degree/immediacy of threat)

0.3 = Not very threatened in California (low degree/immediacy of threats or no current threats known)

Bureau of Land Management

BLM Sensitive = Species requiring special management consideration to promote their conservation and reduce the likelihood and need for future listing under the ESA. BLM Sensitive species also include all Federal Candidate species and Federal Delisted species which were so designated within the last 5 years and CNPS List 1B plant species that occur on BLM lands.

http://www.blm.gov/style/medialib/blm/wo/Information_Resources_Management/policy/blm_manual.Par.4354.5.File.dat/6840.pdf.

Global Rank/State Rank

Global rank (G-rank) and **State rank (S-rank)** is a reflection of the overall condition of an element throughout its global or **State** range. Subspecies are denoted by a T-Rank; multiple rankings indicate a range of values. **State rank (S-rank)** is assigned much the same way as the global rank, except state ranks in California often also contain a threat designation attached to the S-rank. An H-rank indicates that all sites are historical

G1 or S1 = Critically imperiled; Less than 6 viable element occurrences (EOs) OR less than 1,000 individuals

G2 or S2 = Imperiled; 6-20 EOs OR 1,000-3,000 individuals

G3 or S3 = Rare, uncommon or threatened, but not immediately imperiled; 21-100 EOs OR 3,000-10,000 individuals

G4 or S4 = Not rare and apparently secure, but with cause for long-term concern; this rank is clearly lower than G3 but factors exist to cause some concern; i.e., there is some threat, or somewhat narrow habitat.

G5 or S5= Demonstrably widespread, abundant, and secure.

Threat Rank

.1 = very threatened

.2 = threatened

.3 = no current threats known

1.4 Purpose of the Biological Resources Mitigation Implementation and Monitoring Plan

This Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP) is a plan to mitigate potential impacts to biological resources from the construction and operation of the Genesis Solar Energy Project. These biological resources include state- and federally listed species, other non-listed special-status species (Table 3), and their habitats. The mitigation measures are intended to minimize or avoid impacts to these species and habitats. The BRMIMP is a CEC Condition of Certification (COC) BIO-7 and BLM mitigation measure.

1.5 Applicable Permits

In addition to the CEC License and the BLM Record of Decision, the Project has obtained the following federal and state permits.

1.5.1 Federal

Endangered Species Act (ESA) (16 United States Code [USC] Section 1531 et seq.)

Potential take of the desert tortoise, listed as threatened by the U.S. Fish and Wildlife Service (USFWS), requires compliance with the federal ESA (16 USC § 1531 et seq.). “Take” of a federally-listed species is prohibited without an Incidental Take Permit, which was obtained through the Section 7 consultation between BLM and the USFWS. The USFWS issued their Biological Opinion for the Project to BLM on November 2, 2010 (FWS-ERIV-08B0060-10F0878; Appendix B). Project take limits are summarized in Table 4.

Table 4. Desert Tortoise Incidental Take Authorized Under USFWS Biological Opinion

Project Activities		Harassment	Direct Injury/Mortality
Construction – all activities associated with Project construction		Exempt	1 tortoise/year, no overall limit
Operation – all activities associated with Project operations & maintenance		Exempt	1 tortoise/year, no overall limit
Relocation/Translocation	Handling (trapping, capture, and collection of tortoises)	Exempt	0
	Transmitting and Monitoring of Transmitted Tortoises	Exempt ¹	0
	Blood Draw	Exempt	0
Tortoise Habitat Disturbance Acreage		n/a	1,774 acres

¹ Per the terms and conditions of the Biological Opinion (page 36), the Project Owner will notify the FWS if more than 5 tortoises are found within the Project site to determine the need for reinitiating consultation.

1.5.2 State

Under the Warren-Alquist Act (Pub. Res. Code § 25500) the CEC’s certificate for thermal power plants 50 MW and more is “in lieu of” other state, local, and regional permits (*Ibid.*). All required terms and conditions that might otherwise be included in state permits have been incorporated into the CEC’s certification process. COCs satisfy the following state Laws, Ordinances, Regulations and Standards and take the place of terms and conditions that, but for the Commission’s exclusive authority, would have been included in the following state permits:

- **Incidental Take Permit: California Endangered Species Act (Fish and Game Code §§ 2050 et seq.)** The California Endangered Species Act (CESA) prohibits the “take” (defined as “to hunt, pursue, catch, capture, or kill”) of state-listed species

except as otherwise provided in state law. Construction and operation of the Project could result in the “take” of desert tortoise, listed as threatened under CESA. COC BIO-12 specifies compensatory mitigation for desert tortoise habitat loss at a 1:1 ratio. Avoidance and minimization measures described in COC BIO-6 through BIO-11 and BIO-13 will also mitigate for potential impacts to desert tortoise.

- **Streambed Alteration Agreement: California Fish and Game Code §§ 1600 1607.** Pursuant to these sections, California Department of Fish and Game (CDFG) typically regulates all changes to the natural flow, bed, or bank, of any river, stream, or lake that supports fish or wildlife resources. Construction and operation of the Project would result in direct impacts to 69 acres of waters of the state and 21 acres of indirect impacts. COC BIO-22 would minimize and offset direct and indirect impacts to state waters and would assure compliance with CDFG codes that provide protection to these waters.

2.0 INDIVIDUALS RESPONSIBLE FOR BRMIMP IMPLEMENTATION

Protection of biological resources falls under the jurisdiction of several individuals and agencies. Table 5 provides the contact information for the biological resource team, their authority and chain-of-command.

Table 5. Contact Information and Authority for Responsible Individuals

Title	Authority	Reports To	Contact Information
Designated Biologist (DB)	<ul style="list-style-type: none"> • Oversees Biological Monitors (BMs) • Authorized by USFWS to handle desert tortoise • May require work stoppages to avoid harm to biological resources or for any activity not in compliance with conditions in BRMIMP • Inform Project owner and construction/operation manager when to resume activities • Notify Compliance Project Manager (CPM) and BLM of work stoppages and corrective actions • Notify USFWS and CDFG if stoppage is related to listed species. 	CPM and BLM Authorized Officer (AO)	Peggy Goette
DB	Oversees BMs pertaining to botany; work stoppages to avoid harm to botanical resources and ESAs.	CPM and BLM AO	Dr. Alice Karl
Authorized Biologist(s)	Authorized by USFWS to handle desert tortoise; work stoppages to avoid harm to biological resources.	DB	Peggy Goette Fred (Matt) Biggs John Gerbert Kim Parsons
Biological Monitor (s) (BM)	<ul style="list-style-type: none"> • Work stoppages to avoid harm to biological resources or for any activity not in compliance with conditions in BRMIMP • Inform Project owner and construction/operation manager when to resume activities • Act of behalf of DB if DB is unavailable 	DB	Tim Skousen Nick Ganacoplos Sabrina Steel Ken Hashagen Silvia Riano Cheryl Smith Derek Siver Edward (Chris) Grant Jonathan Kirby Dan Hack Emily Festger Jeremy Fennell

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Title	Authority	Reports To	Contact Information
			Dan Hack
Environmental Compliance Manager (ECM)	Consults with DB, agencies and staff when handling disputes, complaints, and amendments. Assists the DB in scheduling/deploying monitors.	Project Owner	April Magrane 19803 North Creek Parkway Bothell, WA 98011 425-482-7845 April.Magrane@tetrattech.com
Construction/ Operation Manager	Authority of construction activities. Consults with DB on work stoppages related to biological resources.	Project Owner DB and BMs ¹	Kevin Dunn TBD
BLM AO	Administrative authority for the right-of-way grant issuance and authority for accepting and approving project-related changes.	---	Holly Roberts Palm Springs South Coast Field Office 1201 Bird Center Drive Palm Springs, CA 92262 760-833-7149 Holly_Roberts@blm.gov
CEC Compliance Project Manager (CPM)	Authority for accepting and approving project-related changes.	---	Chris Davis 1516 Ninth Street Sacramento, CA 95814 916-654-4842 CDavis@energy.state.ca.us
CEC Biologist	Approves (in consultation with CPM): changes to BRMIMP, other Project plans, changes or deviations from COC	---	Amy Golden 1516 Ninth Street Sacramento, CA 95814 916-654-4188 AGolden@energy.state.ca.us
USFWS Biologist	Measures within Biological Opinion; approves various Project plans and changes or deviations from certain COC	---	Tannika Englehard Carlsbad Fish and Wildlife Office 6010 Hidden Valley Road, Suite 101 Carlsbad, CA 92011 760-431-9440, ext. 202 Tannika_Engelhard@fws.gov
BLM Biologist	Approves various Project plans and changes or deviations from certain COC	---	Mark Massar Palm Springs/South Coast Field Office 1201 Bird Center Drive Pal springs, CA 92262 760-833-7121 Mark_Massar@blm.gov
CDFG Biologist	Approves various Project plans and changes or deviations from certain COC	---	Magdalena Rodriguez Inland Deserts Region 3602 Inland Empire Blvd Suite C220 Ontario, CA 91764 909-945-3294 mcrodriguez@dfg.ca.gov

¹ The Project owner's construction/operation manager will act on the advice of the DB and BM(s) to ensure conformance with the biological resources COC.

2.1 Designated Biologist

The CEC, BLM, USFWS, and CDFG have approved Peggy Goette as the Project's DB for Project construction. Peggy Goette meets the requirements set forth in COC BIO-1 (Appendix A). The DB will perform the activities described below during any site mobilization activities, construction-related ground disturbance, grading, boring or trenching activities. The

DB may be assisted by the approved BM(s) but remains the contact for the Project owner, the CEC's CPM and the BLM AO.

1. Advise the Project owner's Construction and Operation Managers on the implementation of the biological resources COC;
2. Consult on the preparation of the BRMIMP to be submitted by the Project owner;
3. Be available to supervise, conduct and coordinate mitigation, monitoring, and other biological resources compliance efforts, particularly in areas requiring avoidance or containing sensitive biological resources, such as special-status species or their habitat;
4. Clearly mark sensitive biological resource areas and inspect these areas at appropriate intervals for compliance with regulatory terms and conditions;
5. Inspect active construction areas where animals may have become trapped prior to construction commencing each day. At the end of the day, inspect for the installation of structures that prevent entrapment or allow escape during periods of construction inactivity. Periodically inspect areas with high vehicle activity (e.g., parking lots) for animals in harm's way;
6. Notify the Project owner and the CPM of any non-compliance with any biological resources COC;
7. Respond directly to inquiries of the CPM regarding biological resource issues;
8. Maintain written records of the tasks specified above and those included in the BRMIMP. Summaries of these records will be submitted in the Monthly Compliance Report (MCR) and the Annual Compliance Report;
9. Train the BMs as appropriate, and ensure their familiarity with the BRMIMP, Worker Environmental Awareness Program (WEAP) training, and USFWS guidelines on desert tortoise surveys and handling procedures <www.fws.gov/ventura/speciesinfo/protocols_guidelines>; and
10. Maintain the ability to be in regular, direct communication with representatives of CDFG, USFWS, and the CPM, including notifying these agencies of dead or injured listed species and reporting special-status species observations to the California Natural Diversity Database (CNDDDB).

If the DB needs to be replaced, the name of the replacement and a USFWS Desert Tortoise Authorized Biologist Request Form (www.fws.gov/ventura/speciesinfo/protocols_guidelines) will be submitted to the USFWS, BLM, and the CPM for review and final approval at least 10 working days prior to the termination or release of the preceding DB. In an emergency, the Project owner will immediately notify the CPM to discuss the qualifications and approval of a short-term replacement while a permanent DB is proposed to the CPM and for consideration. If actions may affect biological resources during operations, a DB will be available for monitoring and reporting.

During Project operations, a DB will be available for monitoring and reporting if actions may affect biological resources. The DB will submit summaries in the Annual Compliance Report unless his or her duties cease, as approved by the CPM.

2.2 Designated Botanist

Dr. Alice Karl has been selected to be the Project's Designated Botanist for Project construction. Dr. Karl meets the requirements set forth in COC BIO-19 (Appendix A). The Designated

Botanist will perform the activities described below during any site mobilization activities, construction-related ground disturbance, grading, boring or trenching activities. The Designated Botanist may be assisted by the BM(s) but remains the contact for the Project owner and the CPM for botany-related issues. The Designated Botanist has the following responsibilities:

1. Oversee compliance with all special-status plant avoidance, minimization, and compensation measures related to botany throughout construction and closure (during operation of the Project, the DB will be responsible for protecting special-status plant occurrences within 100 feet of the Project boundaries).
2. Oversee and train all other BMs tasked with conducting botanical survey and monitoring work.
3. Prior to the start of any ground- or vegetation-disturbing activities, establish Environmentally Sensitive Areas (ESAs) to protect the avoided special-status plants that occur outside of the Project Disturbance Areas and within 100 feet of Project Disturbance Areas.
4. Conduct weekly monitoring of the ESAs during construction and decommissioning activities.
5. Execute and enforce all measures set forth in the Weed Management and Control Plan (Appendix C).
6. Execute and enforce all measures set forth in the Revegetation Plan (Appendix C)

2.3 Biological Monitors

The BMs will be selected by the DB and will have the appropriate education and experience to accomplish the assigned biological resource tasks. The BM is the equivalent of the USFWS designated Desert Tortoise Monitor (USFWS 2008). The BMs will assist the DB in conducting surveys and in monitoring of site mobilization activities, construction-related ground disturbance, fencing, grading, boring, trenching and reporting. BMs will be trained by the DB and Designated Botanist and will be familiar with the COCs, BRMIMP, WEAP, and USFWS guidelines on desert tortoise surveys and handling procedures (USFWS 2010).

Prior to pre-construction site mobilization, a BM will be required to monitor all ground-disturbing activities (e.g., geotechnical borings). The DB or BM will be present to monitor any actions that could disturb soil, vegetation, or wildlife.

During construction, BMs are required in areas that have not been fenced with desert tortoise exclusion fencing and cleared, including during fence construction. The DB or a BM will be present at the construction site during all Project activities that have potential to disturb soil, vegetation, and wildlife. The DB or a BM will walk immediately ahead of equipment during brushing and grading activities in unfenced habitat (i.e., outside of the cleared and fenced Plant Site). Additionally, during construction, road killed animals or other carcasses detected by personnel on roads associated with the Project will be reported immediately to the DB or a BM, who will remove the road kill promptly for disposal (e.g., removal to a landfill or disposal at the project site).

At the end of each work day, the DB or a BM will ensure that all potential wildlife pitfalls (trenches, bores, and other excavations) outside the area fenced with desert tortoise exclusion fencing have been backfilled. If backfilling is not feasible, all trenches, bores, and other excavations will be sloped at a 3:1 ratio at the ends to provide wildlife escape ramps, or covered

completely to prevent wildlife access, or fully enclosed with desert tortoise-exclusion fencing. All trenches, bores, and other excavations outside the areas permanently fenced with desert tortoise exclusion fencing will be inspected periodically throughout the day, at the end of each workday and at the beginning of each day by the DB or a BM. Should a tortoise or other wildlife become trapped, the DB or BM will remove and relocate the individual as described in the Desert Tortoise Translocation Plan.

2.4 Environmental Compliance Manager

Genesis Solar retains final responsibility for compliance with environmental mitigation measures. Genesis Solar will designate an ECM to ensure compliance with environmental mitigation measures by preparing the WEAP (BIO-6); reviewing daily and periodic reports from onsite monitors; perform regular onsite inspections, and maintain frequent contact with onsite monitors and the Construction Manager. The ECM will communicate directly with the CEC and BLM as requested regarding environmental conditions and mitigation requirements during construction. The ECM will work for the Project owner and ensure that the environmental COCs are satisfied, and will act on the advice of the Project biologists to ensure conformance with biological resources mitigation measures. The ECM will assist the Project owner in complying with post-certification changes to the Project design, compliance conditions, or ownership.

2.4.1 Operations Monitoring Responsibility

During Project operations the roles of the ECM will be taken over by the on-site Environmental Manager. The on-site Environmental Manager will communicate directly with the CEC and BLM regarding environmental conditions and mitigation requirements during operations, as well as work with the Project owner and Designated Biologist to ensure that impact avoidance and minimization measures are implemented during Project operations, as appropriate.

The on-site Environmental Manager will also be responsible for post-construction monitoring, as required by certain COCs (see Section 7.0). The on-site Environmental Manager will be trained by the DB and the DB will determine when the on-site Environmental Manager is sufficiently trained. If the on-site Environmental Manager is replaced at any time during operations, the Project owner will ensure their replacement is properly trained. The DB will also review the data and discuss monitoring results with the on-site Environmental Manager to ensure that post-construction monitoring objectives are being achieved.

2.5 Compliance Project Manager

The CEC's CPM will oversee the compliance monitoring and will be responsible for:

- Ensuring that the design, construction, operation, and closure of the Project facilities are in compliance with the terms and conditions of the CEC decision
- Resolving complaints
- Processing post-certification changes to the COC, project description, and ownership or operational control
- Documenting and tracking compliance filings
- Ensuring that the compliance files are maintained and accessible

The CPM is the contact person for the CEC and will consult with appropriate responsible agencies when handling disputes, complaints, and amendments. All Project compliance submittals are submitted to the CPM for processing. Where a submittal required by a COC requires CPM approval, the approval will involve all appropriate staff and management.

2.6 Authorized Officer

The BLM compliance representative is the AO. The AO is the BLM official with the administrative authority for the right-of-way grant issuance and authority for accepting and approving project related changes.

3.0 PRE-CONSTRUCTION SURVEYS AND REPORTING

Table 6 includes the required pre-construction and construction surveys and the associated reporting requirements. Additional, detailed survey requirements for specific species are addressed in Sections 3.1-3.4. Surveys will be conducted by the DB, Designated Botanist, and/or BMs. Pre-construction survey results will be included in the MCRs that will be sent to the CPM and AO.

Table 6. Pre-construction Surveys and Reporting Requirements

Surveys	Timing	Required Survey Protocol	Survey and Timing Details	Reporting Requirements
Aerial Photography (BIO-7)	Pre-construction and post-construction	N/A	Prior to preconstruction site mobilization/ground disturbance. Second set of photographs to be taken post-construction to verify actual disturbance.	The second set of aerial photographs will be taken subsequent to completion of construction, and will be submitted to the CPM, BLM, USFWS and CDFG no later than 90 days after completion of construction. The Project owner will also provide a final accounting of the acreages of vegetation communities/cover types present before and after construction.
Desert Tortoise Fence Installation (BIO-9)	Pre-construction	USFWS 2009 Appendix D	Within 24-hours prior to initiation of fence construction (prior to onset of site clearing and grubbing).	Record required information for any desert tortoises handled and include in MCR.
Desert Tortoise Clearance Surveys (BIO-9)	Pre-construction	USFWS 2009 Appendix D	Following construction of the tortoise exclusion fence. Clearance surveys of the power plant site may only be conducted when tortoises are most active (April through May or September through October). Surveys outside these time periods require approval by USFWS and CDFG.	Within 30 days after completion of desert tortoise clearance surveys the DB will submit a report to the CPM, USFWS, and CDFG describing implementation of each of the mitigation measures listed above. The report will include the desert tortoise survey results, capture and release locations of any translocated desert tortoises, and any other information needed to demonstrate compliance with the measures described above.
Weeds (BIO-14)	Pre-construction, construction, and post-construction	See Weed Management Plan Appendix C	Pre-construction to determine baseline conditions.	No less than 10 days prior to start of any Project-related ground disturbance, the Project owner will provide the CPM with the final version of a Weed Management Plan that has been reviewed and approved by CEC staff, USFWS, and CDFG.
Nesting Birds (other than Burrowing Owl) (BIO-15 BIO-8)	Pre-construction and construction (during nesting season only: February 1 – July 31)	Martin and Geupel (1993) Appendix D	Pre-construction surveys for bird species other than burrowing owls will be conducted if construction activities occur between February 1 and July 31. Two pre-construction surveys conducted, separated by a minimum 10-day interval. One survey must be conducted within the 7-day period preceding initiation of construction activity. Follow-up surveys may be required if periods of construction inactivity exceed three weeks. See Section 3.2 for additional requirements. During construction, additional surveys required February 1 – April 15 if loud (>65dBA) construction activities are proposed for this time period.	Prior to the start of any Project-related ground disturbance activities, the Project owner will provide the CPM a letter-report describing the findings of the pre-construction nest surveys, including the time, date, and duration of the survey; identity and qualifications of the surveyor (s); and a list of species observed. If active nests are detected during the survey, the report will include a map or aerial photo identifying the location of the nest and will depict the boundaries of the no-disturbance buffer zone around the nest(s) that would be avoided during Project construction. If survey identifies nesting birds, submit survey results to CPM, and Nesting Bird Monitoring and Management Plan to CPM no more than 7 days before initiating loud construction activities.
Desert Kit Fox and American Badger (BIO-17)	Pre-construction	See desert tortoise protocol	Biological Monitors will perform pre-construction surveys for badger and kit fox dens in the Project Area, including areas within 90 feet of all Project facilities, utility corridors, and access roads. Surveys may be concurrent with desert tortoise surveys. If dens are detected each den will be classified as inactive, potentially active, or definitely active. Monitor potentially and definitely active dens for three consecutive nights. See Section 3.3 for additional requirements.	The Project owner will submit a report to the CPM and CDFG within 30 days of completion of badger and kit fox surveys. The report will describe survey methods, results, impact avoidance and minimization measures implemented, and the results of those measures.

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Surveys	Timing	Required Survey Protocol	Survey and Timing Details	Reporting Requirements
Burrowing Owl (BIO-18)	Pre-construction	CBOC (1993) Appendix D	The Designated Biologist or Biological Monitor will conduct pre-construction surveys for burrowing owls no more than 30 days prior to initiation of construction activities. Surveys will focus exclusively on detecting burrowing owls, and will be conducted from two hours before sunset to one hour after or from one hour before to two hours after sunrise. The survey area will include the Project Disturbance Area and surrounding 500 foot survey buffer.	If pre-construction surveys detect burrowing owls within 500 feet of proposed construction activities, the Designated Biologist will provide to the CPM, BLM, CDFG and USFWS documentation indicating that non-disturbance buffer fencing has been installed at least 10 days prior to the start of any construction-related ground disturbance activities.
				If pre-construction surveys detect burrowing owls within the Project Disturbance Area, the Project owner will notify the CPM, BLM, CDFG, and USFWS no less than 10 days of completing the surveys that a relocation of owls is necessary.
				Within 30 days of completion of the burrowing owl pre-construction surveys, if owls are detected, submit to the CPM, CDFG and USFWS a Burrowing Owl Relocation and Mitigation Plan.
Special-status Plants/ Identification of ESAs (BIO-19, Section A)	Pre-construction	N/A	Prior to the start of any ground- or vegetation-disturbing activities, the Designated Botanist will establish ESAs to protect avoided special-status plants that occur outside of the Project Disturbance Areas and within 100 feet of Project Disturbance Areas. This includes plant occurrences identified during the Spring 2009-2010 surveys.	No less than 30 days prior to the start of ground-disturbing activities the Project owner shall submit grading plans and construction drawings to the CPM which depict the location of ESAs and the avoidance and minimization measures contained in BIO-19.
Vegetation (for Revegetation Plan) (BIO-24)	Pre-construction and post-construction	See Revegetation Plan Appendix C	Prior to ground disturbance to determine baseline conditions and topsoil salvage and storage areas.	No less than 30 days prior to construction-related ground-disturbance activities the Project owner will submit to the CPM a final agency-approved Revegetation Plan that has been reviewed and approved by the CPM.
Couch's Spadefoot Toad (BIO-27)	Pre-construction	See Couch's Spadefoot Toad Plan Appendix C	Prior to ground disturbance.	No less than 30 days prior to construction-related ground-disturbance the Project owner will submit to the CPM and CDFG a final Couch's Spadefoot Toad Protection and Mitigation Plan.
Golden Eagles (BIO-28)	Pre-construction and Construction	Pagel et. al (2010) Appendix D	Conduct inventory within one mile of Project Disturbance Area each calendar year during construction, beginning with year 1 of construction.	No fewer than 30 days from completion of the golden eagle inventory the Project owner will submit a report to the CPM, CDFG, and USFWS documenting the results of the inventory. If an occupied nest is detected within one mile of the Project boundary 1) contact USFWS and CDFG within one working day of detection, 2) produce a Golden Eagle Monitoring and Management Plan within 30 days of detection of the nest.

3.1 Desert Tortoise Clearance

During clearance surveys, all desert tortoise burrows and burrows constructed by other species that might be used by desert tortoises, will be examined by the DB, or a BM under the direction of the DB, to assess occupancy of each burrow by desert tortoises and handled in accordance with the USFWS 2009 Desert Tortoise Field Manual. To prevent reentry by a tortoise or other wildlife, all burrows will be collapsed once absence has been determined, in accordance with

the Desert Tortoise Translocation Plan. Tortoises moved from burrows and from elsewhere on the Project Area will be relocated or translocated as described in the Desert Tortoise Translocation Plan (Appendix C).

3.2 Nesting Birds (other than burrowing owl)

Pre-construction nest surveys for bird species other than burrowing owls will be conducted if construction activities would occur at any time during the period of February 1 through July 31. The DB or BM conducting the surveys will be experienced bird surveyors familiar with standard nest-locating techniques such as those described in Martin and Geupel (1993). The goal of the nesting surveys will be to identify the general location of the nest sites, sufficient to establish a protective buffer zone around the potential nest site, and need not include identification of the precise nest locations. Surveyors performing nest surveys will not concurrently be conducting desert tortoise surveys. The bird surveyors will perform surveys in accordance with the following guidelines:

1. Surveys will cover all potential nesting habitat in the Project site or within 500 feet of the boundaries of the site (including linear facilities);
2. At least two pre-construction surveys will be conducted, separated by a minimum 10-day interval. One of the surveys will be conducted within the 7-day period preceding initiation of construction activity. Additional follow-up surveys may be required if periods of construction inactivity exceed three weeks, an interval during which birds may establish a nesting territory and initiate egg laying and incubation.

3.3 Burrowing Owl

Pre-construction surveys will commence within 30 days of the start of surface disturbance to determine if burrowing owls are in the Project Disturbance Area or within 500 feet of the Project Disturbance Area. Pre-construction surveys will be conducted by walking suitable habitat within the Project Disturbance Area from two hours before sunset to one hour after sunset, or from one hour before sunrise to two hours after sunrise, to the extent feasible. Transects will be spaced no more than 30 meters apart to achieve 100% visual coverage (CDFG 1995). Surveyors will search exclusively for burrowing owls and their sign (molted feathers, cast pellets, prey remains, eggshell fragments, or excrement at or near a burrow entrance) and evaluate burrows to determine occupancy. Additional monitoring of specific burrows may be required to definitively determine that it is unoccupied; this monitoring will take place from two hours before sunset to one hour after sunset, or from one hour before sunrise to two hours after sunrise. If a burrow is found to be currently occupied by a burrowing owl, the owl will need to be relocated (see Burrowing Owl Relocation and Mitigation Plan, Appendix C). If a burrow is confirmed to be unoccupied and inactive, the burrow will be collapsed to prevent reentry by a burrowing owl or other wildlife.

3.4 Vegetation

Project Area habitats, plant species composition (including weeds), soil types, topography, and drainages were documented in 2009 and 2010 Project surveys (Tetra Tech and Karl 2009, 2010). The Designated Botanist and qualified designees will conduct additional surveys to document baseline conditions of vegetation and weeds to monitor post-construction revegetation success and weed control success. Detailed survey methods, revegetation methods, and weed management methods are located in the Project's Revegetation Plan and

Weed Management Plan (Appendix C). Additionally, 30 days prior to ground disturbance, the Designated Botanist will delineate Environmentally Sensitive Areas (ESAs) to minimize impacts to special-status plant communities (see Section 5.2), as well as designate appropriate locations for topsoil storage.

3.5 Desert Kit Fox and American Badger

Inactive kit fox and badger dens and burrows that would be directly impacted by construction activities will be excavated by hand and backfilled to prevent reuse by badgers or kit fox. Potentially and definitely active dens that would be directly impacted by construction activities will be monitored by the DB or a BM for three consecutive nights using a tracking medium (such as diatomaceous earth or fire clay) and/or infrared camera stations at the entrance. If no tracks are observed in the tracking medium or no photos of the target species are captured after three nights, the den will be excavated and backfilled by hand. If tracks are observed, and especially if high or low ambient temperatures could potentially result in harm to kit fox or badger from burrow exclusion, various passive hazing methods may be used to discourage occupants from continued use. After verification that the den is unoccupied it will then be excavated and backfilled by hand to ensure that no badgers or kit fox are trapped in the den. In the event that passive relocation techniques fail for badgers, the DB will contact CDFG to explore other relocation options, which may include trapping.

3.6 Golden Eagles

Data collected during the annual golden eagle inventory within one mile of the Project will include at least the following: territory status (unknown, vacant, occupied, breeding successful, breeding unsuccessful); nest location, nest elevation; age class of golden eagles observed; nesting chronology; number of young at each visit; digital photographs; and substrate upon which nest is placed. A nesting territory or inventoried habitat will be considered unoccupied by golden eagles only after completing at least two full surveys in a single breeding season.

4.0 WORKER ENVIRONMENTAL AWARENESS PROGRAM

Genesis Solar has developed a Project-specific WEAP for implementation during construction and operations. The WEAP will be administered to all onsite personnel including surveyors, construction engineers, employees, contractors, contractor's employees, supervisors, inspectors, and subcontractors. The WEAP will be implemented during site preconstruction, construction, operation, and closure. The WEAP will be submitted as a separate document and approved by the CEC and BLM and reviewed by USFWS and CDFG prior to construction-related ground disturbance.

5.0 AVOIDANCE AND MINIMIZATION MEASURES

This Section outlines the avoidance and minimization measures required to avoid and/or minimize impacts to special-status species and their environments. Specific avoidance requirements and buffers are summarized in Table 7. Additionally, many separate management plans have been produced to supplement these measures. These plans are attached to this document and referenced throughout.

Table 7. Species-specific Measures and Avoidance Requirements

Biological Resource	Avoidance/Buffer Requirement	Separate Management Plan
Desert tortoise or tortoise burrow	Discretion of the DB or BM. Tortoises will be left to move on their own. If it does not move within 15 minutes, the DB, an Authorized Biologist, or a BM under the direct supervision of an Authorized Biologist may move it out of harm's way.	Desert Tortoise Translocation Plan Appendix C; Section 5.3.1
Burrowing Owl	February 1 – August 31: 250-foot radius non-disturbance buffer around occupied burrows September 1 – January 31: 160 ft radius non-disturbance buffer around occupied burrows	Burrowing Owl Relocation and Mitigation Plan Appendix C
Nesting Birds (loud construction activities)	February 1 – April 15: No loud construction activities (e.g., unsilenced high pressure steam blowing and pile driving, or other) when it would result in noise levels over 65 decibels, A scale (dBA) in nesting habitat (excludes noise from passing vehicles). If nesting birds are present, buffer distances vary (determined based on the species specific alert distance and flush initiation distance), see Nesting Bird Monitoring and Management Plan.	Nesting Bird Monitoring and Management Plan Appendix C
Drainages	Spoil sites will be located at least 30 feet from the boundaries and drainages or in locations that may be subjected to high storm flows, where spoils might be washed back into drainages. No equipment maintenance will occur within 150 feet of any ephemeral drainage where petroleum products or other pollutants from the equipment may enter these areas under any flow. No broken concrete, debris, soil, silt, sand, bark, slash, sawdust, rubbish, cement or concrete or washings thereof, oil or petroleum products or other organic or earthen material from any construction or associated activity of whatever nature will be allowed to enter into, or placed where it may be washed by rainfall or runoff into waters of the state.	N/A (see Section 5.4)
ESAs	ESA boundaries: minimum 20 feet from uphill side of occurrence; 10 feet from downhill side. Where this is not possible due to construction constraints, other protection measures, such as silt-fencing and sediment controls, may be employed to protect the occurrences. The Designated Botanist or qualified designee will conduct weekly monitoring of the ESAs to make sure construction activities are avoiding these areas. Spoils, equipment, vehicles, and materials storage areas; parking; equipment and vehicle maintenance areas, and wash areas will be placed at least 100 feet from any ESAs. Special-status plant occurrences within 100 feet of the Project Disturbance Area will be protected from herbicide and soil stabilizer drift.	N/A (see Section 5.2)
Weeds	Avoid chemical drift or residual toxicity to special-status plants consistent with guidelines such as those provided by the Nature Conservancy's The Global Invasive Species Team, the U.S. Environmental Protection Agency, and the Pesticide Action Network Database.	Weed Management Plan Appendix C
Couch's Spadefoot Toad Breeding Habitat	Borrow Pit south of I-10 – Complete avoidance with 50 ft minimum buffer between habitat and construction.	Couch's Spadefoot Toad Protection Plan Appendix C

5.1 Best Management Practices

As required by COC BIO-8, the Project owner will undertake the following measures to manage the Project site and related facilities in a manner to avoid or minimize impacts to biological resources:

1. Limit Disturbance Areas. The boundaries of all areas to be disturbed (including staging areas, access roads, and sites for temporary placement of spoils) will be delineated with stakes and flagging prior to construction activities in consultation with the DB. Spoils and topsoil will be stockpiled in disturbed areas lacking native

- vegetation and which do not provide habitat for special-status species. Parking areas, staging and disposal site locations will similarly be located in areas without native vegetation or special-status species habitat. All disturbances, Project vehicles and equipment will be confined to the flagged areas.
2. **Minimize Road Impacts.** New and existing roads that are planned for construction, widening, or other improvements will not extend beyond the flagged impact area as described above. All vehicles passing or turning around would do so within the planned impact area or in previously disturbed areas. Where new access is required outside of existing roads or the construction zone, the route will be clearly marked (i.e., flagged and/or staked) prior to the onset of construction.
 3. **Minimize Traffic Impacts.** Vehicular traffic during Project construction and operation will be confined to existing routes of travel to and from the Project site, and cross country vehicle and equipment use outside designated work areas will be prohibited. The speed limit will not exceed 25 miles per hour on all dirt roads and 45 miles per hour on all paved roads. Signs will be established at appropriate locations (for example, at Arizona crossings of drainages) to remind drivers to be aware of the potential for desert tortoise and other wildlife occurring on the roadways.
 4. **Monitor During Construction.** In areas that have not been fenced with desert tortoise exclusion fencing and cleared, including during fence construction, the DB or a BM will be present at the construction site during all Project activities that have potential to disturb soil, vegetation, and wildlife. The DB or BM will walk immediately ahead of equipment during brushing and grading activities in unfenced habitat (i.e., outside of the cleared and fenced Plant Site).
 5. **Minimize Impacts of Pipeline Alignments, Roads, Staging Areas.** Staging areas for construction on the Plant Site will be within the area that has been fenced with desert tortoise exclusion fencing and cleared. For construction activities outside of the Plant Site (transmission line, pipeline alignments) access roads, pulling sites, and storage and parking areas will be designed, installed, and maintained with the goal of minimizing impacts to native plant communities and sensitive biological resources.
 6. **Implement Avian Power Line Interaction Committee (APLIC) Guidelines.** Transmission lines, fiber optic lines, and all electrical components will be designed, installed, and maintained in accordance with the APLIC's Suggested Practices for Avian Protection on Power Lines (APLIC 1994) and Mitigating Bird Collisions with Power Lines (APLIC 2006) to reduce the likelihood of large bird electrocutions and collisions.
 7. **Avoid Use of Toxic Substances.** Soil bonding and weighting agents used on unpaved surfaces will be non-toxic to wildlife and plants.
 8. **Minimize Lighting Impacts.** Facility lighting will be designed, installed, and maintained to prevent side casting of light towards wildlife habitat. Lighting will be kept to the minimum level for safety and security needs by using motion or infrared light sensors and switches to keep lights off when not required, and shielding operational lights downward to minimize skyward illumination. No high intensity, steady burning, bright lights such as sodium vapor or spotlights will be used. Federal Aviation Administration visibility lighting will employ only strobed, strobe-like or blinking incandescent lights, preferably with all lights illuminating simultaneously. Minimum intensity, maximum "off-phased" dual strobes are preferred, and no steady burning lights (e.g., L- 810s) will be used.
 9. **Minimize Noise Impacts.** A continuous low-pressure technique will be used for steam blows, to the extent possible, in order to reduce noise levels in sensitive habitat proximate to the Genesis Project. Loud construction activities (e.g., unsilenced high

- pressure steam blowing and pile driving, or other) will be avoided from February 15 to April 15 when it would result in noise levels over 65 dBA in nesting habitat (excluding noise from passing vehicles). Loud construction activities may be permitted from February 15 to April 15 only if:
- a. the DB provides documentation (i.e., nesting bird data collected using methods described in BIO-15 and maps depicting location of the nest survey area in relation to noisy construction) to the CPM indicating that no active nests would be subject to 65 dBA noise, OR
 - b. the DB or BM monitors active nests within the range of construction-related noise exceeding 65 dBA. The monitoring will be conducted in accordance with Nesting Bird Monitoring and Management Plan approved by the CPM. The Plan will include adaptive management measures to prevent disturbance to nesting birds from construction related noise. Triggers for adaptive management will be evidence of Project-related disturbance to nesting birds such as: agitation behavior (displacement, avoidance, and defense); increased vigilance behavior at nest sites; changes in foraging and feeding behavior, or nest site abandonment. The Bird Monitoring and Management Plan will include a description of adaptive management actions, which will include, but not be limited to, cessation of construction activities that are deemed by the DB to be the source of disturbance to the nesting bird.
10. Avoid Vehicle Impacts to Desert Tortoise. Parking and storage will occur within the area enclosed by desert tortoise exclusion fencing to the extent feasible. No vehicles or construction equipment parked outside the fenced area will be moved prior to an inspection of the ground beneath the vehicle for the presence of desert tortoise. If a desert tortoise is observed, it will be left to move on its own. If it does not move within 15 minutes, a DB or BM under the DB's direct supervision may move it out of harm's way of the disturbed area as described in the *USFWS Desert Tortoise Field Manual* (USFWS 2009).
11. Avoid Wildlife Pitfalls: To avoid trapping desert tortoise and other wildlife in trenches, pipes or culverts, the following measures will be implemented:
- a. Backfill Trenches. At the end of each work day, the DB will ensure that all potential wildlife pitfalls (trenches, bores, and other excavations) outside the area fenced with desert tortoise exclusion fencing have been backfilled. If backfilling is not feasible, all trenches, bores, and other excavations will be sloped at a 3:1 ratio at the ends to provide wildlife escape ramps, or covered completely to prevent wildlife access, or fully enclosed with desert tortoise-exclusion fencing. All trenches, bores, and other excavations outside the areas permanently fenced with desert tortoise exclusion fencing will be inspected periodically throughout the day, at the end of each workday and at the beginning of each day by the DB or a BM. Should a tortoise or other wildlife become trapped, the DB or BM will remove and relocate the individual as described in the Desert Tortoise Translocation Plan. Any wildlife encountered during the course of construction will be allowed to leave the construction area unharmed.
 - b. Avoid Entrapment of Desert Tortoise. Any construction pipe, culvert, or similar structure with a diameter greater than 3 inches, stored less than 8 inches aboveground and within desert tortoise habitat (i.e., outside the permanently fenced area) for one or more nights, will be inspected for tortoises before the material is moved, buried or capped. As an alternative, all such structures may be capped before being stored outside the fenced area, or placed on elevated pipe racks. These materials would not need to be inspected or capped if they are

stored within the permanently fenced area after the clearance surveys have been completed.

12. **Minimize Standing Water.** Water applied to dirt roads and construction areas (trenches or spoil piles) for dust abatement will use the minimal amount needed to meet safety and air quality standards in an effort to prevent the formation of puddles, which could attract desert tortoises and common ravens to construction sites. A BM will patrol these areas to ensure water does not puddle and will take appropriate action to reduce water application where necessary.
13. **Dispose of Road-killed Animals.** During construction, road killed animals or other carcasses detected by personnel on roads associated with the Project Area will be reported immediately to the DB or a BM, who will remove the road kill promptly for disposal (e.g., removal to a landfill or disposal at the Project site). During operations, the Project ECM will be notified of any road kills and promptly remove and dispose of any road kills. For special-status species road-kill, the BM will contact the Ontario Office of CDFG and the Carlsbad Office of USFWS within 1 working day of detection of the carcass for guidance on disposal or storage of the carcass. The BM will report the special-status species record as described in Section 6.2.
14. **Minimize Spills of Hazardous Materials.** All vehicles and equipment will be maintained in proper working condition to minimize the potential for fugitive emissions of motor oil, antifreeze, hydraulic fluid, grease, or other hazardous materials. The DB will be informed of any hazardous spills immediately as directed in the Project Hazardous Materials Plan. Hazardous spills will be immediately cleaned up and the contaminated soil properly disposed of at a licensed facility. Servicing of construction equipment will take place only at a designated area. Service/maintenance vehicles will carry a bucket and pads to absorb leaks or spills.
15. **Worker Guidelines.** During construction all trash and food related waste will be placed in self-closing containers and removed daily from the site. Workers will not feed wildlife or bring pets to the Project site. Except for law enforcement personnel, no workers or visitors to the site will bring firearms or weapons. Vehicular traffic will be confined to existing routes of travel to and from the Project site, and cross country vehicle and equipment use outside designated work areas will be prohibited. The speed limit when traveling on dirt access routes within desert tortoise habitat will not exceed 25 miles per hour.
16. **Implement Erosion Control Measures.** Standard erosion control measures will be implemented for all phases of construction and operation where sediment run-off from exposed slopes threatens to enter "Waters of the State". Sediment and other flow-restricting materials will be moved to a location where they will not be washed back into the stream. All disturbed soils and roads within the Project site will be stabilized to reduce erosion potential, both during and following construction. Areas of disturbed soils (access and staging areas) with slopes toward drainages will be stabilized to reduce erosion potential.
17. **Monitor Ground Disturbing Activities Prior to Pre-Construction Site Mobilization.** If pre-construction site mobilization requires ground-disturbing activities such as for geotechnical borings or hazardous waste evaluations, a DB or BM will be present to monitor any actions that could disturb soil, vegetation, or wildlife.

5.2 Special-status Plants

To protect all special-status plants¹ located outside of the Project Disturbance Area and within 100 feet of the permitted Project Disturbance Area from accidental and indirect impacts during construction, operation, and closure, the Project owner will implement the following measures:

1. **Designated Botanist.** An experienced botanist who is knowledgeable in the complex biology of the local flora will oversee compliance with all special-status plant avoidance, minimization, and compensation measures described in this condition throughout construction and closure. The DB will oversee and train all other BMs tasked with conducting botanical survey and monitoring work. During operation of the Project, the DB will be responsible for protecting special-status plant occurrences within 100 feet of the Project boundaries.
2. **Special-Status Plant Impact Avoidance and Minimization Measures.** The following measures will be implemented to protect special-status plant in close proximity to the site:
 - a. **Site Design Modifications:** Incorporate site design modifications to minimize impacts to special-status plants along the Project linears: limiting the width of the work area; adjusting the location of staging areas, lay downs, spur roads and poles or towers; driving and crushing vegetation as an alternative to blading temporary roads to preserve the seed bank, and minor adjustments to the alignment of the roads and pipelines within the constraints of the right-of-way. Design the engineered channel discharge points to maintain the natural surface drainage patterns between the engineered channel and the outlet of the natural washes that flow toward the south and east, downstream of the Project. These modifications will be clearly depicted on the grading and construction plans, and on report-sized maps in the BRMIMP.
 - b. **Establish ESAs.** Prior to the start of any ground- or vegetation-disturbing activities, the Designated Botanist will establish ESAs to protect avoided special-status plants that occur outside of the Project Disturbance Areas and within 100 feet of Project Disturbance Areas. This includes plant occurrences identified during the spring 2009-2010 surveys and the late season 2010 surveys. The locations of ESAs will be clearly depicted on construction drawings, which will also include all avoidance and minimization measures on the margins of the construction plans. The boundaries of the ESAs will be placed a minimum of 20 feet from the uphill side of the occurrence and 10 feet from the downhill side. Where this is not possible due to construction constraints, other protection measures, such as silt-fencing and sediment controls, may be employed to protect the occurrences. Equipment and vehicle maintenance areas, and wash areas, will be located 100 feet from the uphill side of any ESAs. ESAs will be clearly delineated in the field with temporary construction fencing and signs prohibiting movement of the fencing or sediment controls under penalty of work stoppages and additional compensatory mitigation. ESAs will also be clearly identified (with signage or by mapping on site plans) to ensure that avoided plants are not inadvertently harmed during construction, operation, or closure.
 - c. **Special-Status Plant WEAP.** The WEAP will include training components specific to protection of special-status plants.

¹ Special-status plants are those described in *Protocols for Surveying and Evaluating Impacts to Special-Status Native Plant Populations and Natural Communities* (California Natural Resources Agency, Department of Fish and Game, issued November 24, 2009).

- d. **Herbicide and Soil Stabilizer Drift Control Measures.** Special status plant occurrences within 100 feet of the Project Disturbance Area will be protected from herbicide and soil stabilizer drift. The Weed Management Plan (Appendix C) will include measures to avoid chemical drift or residual toxicity to special-status plants consistent with guidelines such as those provided by the Nature Conservancy's *The Global Invasive Species Team* (Hillmer and Liedtke 2003), the U.S. Environmental Protection Agency, and the Pesticide Action Network Database (Kegley et al. 2010).
- e. **Erosion and Sediment Control Measures.** Erosion and sediment control measures will not inadvertently impact special-status plants (e.g., by using invasive or non-native plants in seed mixes, introducing pest plants through contaminated seed or straw, etc.).
- f. **Avoid Special-Status Plant Occurrences.** Areas for spoils, equipment, vehicles, and materials storage areas; parking; equipment and vehicle maintenance areas, and wash areas will be placed at least 100 feet from any ESAs.
- g. **Monitoring and Reporting Requirements.** The Designated Botanist will conduct weekly monitoring of the ESAs that protect special-status plant occurrences during construction and decommissioning activities.

5.3 Species-Specific Measures

In addition to the general best management practices (BMPs) detailed above, the following sections provide additional detail for species-specific avoidance and minimization requirements that are not provided in Table 7, above.

5.3.1 Desert Tortoise

The Project owner will undertake appropriate measures to manage the construction site and related facilities in a manner to avoid or minimize impacts to desert tortoise. Methods for clearance surveys (see Section 3.1), fence specification and installation, tortoise handling, artificial burrow construction, egg handling and other procedures will be consistent with those described in the USFWS' 2009 Desert Tortoise Field Manual <http://www.fws.gov/ventura/speciesinfo/protocols_guidelines> or more current formal guidance provided by CDFG and USFWS. The Project owner will also implement all terms and conditions described in the Biological Opinion prepared by USFWS.

Desert Tortoise Fencing

Per the Applicant's Desert Tortoise Translocation Plan, in order to avoid impacts to desert tortoises, permanent desert tortoise exclusion fencing will be installed along the permanent perimeter security fence; along the utility corridors, temporary desert tortoise exclusion fencing or monitoring will be used to protect desert tortoises during construction. The proposed alignments for the permanent perimeter fence and utility rights-of-way fencing will be flagged and surveyed within 24 hours prior to the initiation of fence construction. Clearance surveys of the perimeter fence and utility rights-of-way alignments will be conducted by the DB(s) using techniques outlined in the USFWS 2009 *Desert Tortoise Field Manual* and may be conducted in any season with USFWS and CDFG approval. BMs may assist the DB under his or her supervision. These fence clearance surveys will provide 100-percent coverage of all areas to be disturbed and an additional transect along both sides of the fence line. This fence line transect will cover an area approximately 90 feet wide centered on the fence alignment. Transects will be

no greater than 15 feet apart. All desert tortoise burrows, and burrows constructed by other species that might be used by desert tortoises, will be examined to assess occupancy of each burrow by desert tortoises and handled in accordance with the USFWS 2009 *Desert Tortoise Field Manual*. Any desert tortoise located during fence clearance surveys will be handled by the DB or BMs authorized by the USFWS to handle tortoises in accordance with the Desert Tortoise Translocation Plan (Appendix C). The Project owner will adhere to the following:

1. **Timing, Supervision of Fence Installation.** The exclusion fencing will be installed prior to the onset of site clearing and grubbing. The fence installation will be supervised by the DB and monitored by the BMs to ensure the safety of any tortoise present.
2. **Fence Material and Installation.** The permanent tortoise exclusionary fencing will be constructed in accordance with the USFWS 2009 *Desert Tortoise Field Manual* (Chapter 8 – Desert Tortoise Exclusion Fence).
3. **Security Gates.** Security gates will be designed with minimal ground clearance to deter ingress by tortoises. The gates may be electronically activated to open and close immediately after the vehicle(s) have entered or exited to prevent the gates from being kept open for long periods of time.
4. **Fence Inspections.** Following installation of the desert tortoise exclusion fencing for both the permanent site fencing and temporary fencing in the utility corridors, the fencing will be regularly inspected. If tortoise were moved out of harm's way during fence construction, permanent and temporary fencing will be inspected at least two times a day for the first 7 days to ensure a recently moved tortoise has not been trapped within the fence. Thereafter, permanent fencing will be inspected monthly and during and within 24 hours following all major rainfall events. A major rainfall event is defined as one for which flow is detectable within the fenced drainage. Any damage to the fencing will be temporarily repaired immediately to keep tortoises out of the site, and permanently repaired within 48 hours of observing damage. Inspections of permanent site fencing will occur for the life of the Project. Temporary fencing will be inspected weekly and, where drainages intersect the fencing, during and within 24 hours following major rainfall events. All temporary fencing will be repaired immediately upon discovery and, if the fence may have permitted tortoise entry while damaged, the DB will inspect the area for tortoise.

5.3.2 Couch's Spadefoot Toad

The Project will avoid known Couch's spadefoot toad breeding habitat (the man-made borrow pit south of I-10 that spans Wiley's Well Road), as well as two other areas identified as potential breeding areas (see Figure 3 in Appendix C, Couch's Spadefoot Toad Protection and Mitigation Plan)..If at any point during construction, operations, or decommissioning, other breeding sites are incidentally discovered and verified to be Couch's spadefoot breeding habitat (toads or toad larvae are present) and will be permanently and directly impacted by Project activities, those areas will be protected according to the Couch's Spadefoot Toad Protection and Mitigation Plan. Specific avoidance and minimization measures for Couch's spadefoot toad and their breeding habitat are located within the Couch's Spadefoot Toad Protection and Mitigation Plan (Appendix C).

5.3.3 Burrowing Owl

If pre-construction surveys indicate the presence of burrowing owls within the Project Disturbance Area, burrowing owls will be passively relocated per the Burrowing Owl Relocation and Mitigation Plan (Appendix C).

5.3.4 Nesting Birds

If active nests are detected during the pre-construction survey, a buffer zone and monitoring plan shall be developed and shall be monitored in accordance with the Avian Protection Plan (Appendix C). The size of the buffer zone will be developed in consultation with CDFG. The DB or a BM will monitor the nest until he or she determines that nestlings have fledged and dispersed; activities that might, in the opinion of the DB, disturb nesting activities, will be prohibited within the buffer zone until such a determination is made. If noisy (>65 dBA) construction activities will take place near the nest from February 15 to April 15 of any given year, active bird nests that were identified and mapped during pre-construction surveys will be monitored in accordance with the Nesting Bird Monitoring and Management Plan if the nest occurs in the range of construction-related noise that will exceed 65 dBA (Appendix C).

5.3.5 Golden Eagle

If an occupied nest is detected within one mile of the Project boundaries during construction, the Project owner will prepare and implement a Golden Eagle Monitoring and Management Plan for the duration of construction to ensure that Project construction activities do not result in injury or disturbance to golden eagles. The likelihood that golden eagle nests will be detected within one mile of the Project boundaries is extremely low; therefore, a Golden Eagle Monitoring and Management Plan will be produced only if necessary. Appendix C is included as a placeholder for this plan, should it be necessary.

5.3.6 Common Raven

Common raven monitoring and management will be conducted according to the Common Raven Monitoring, Management, and Control Plan (Appendix C). Specifically, the DB and/or BMs will patrol the access road daily and report any road kill that may attract ravens.

5.4 Jurisdictional Drainages

The following best management practices will be implemented to protect drainages near the Project Disturbance Area:

- a. Minimize road building, construction activities and vegetation clearing within ephemeral drainages to the extent feasible.
- b. Water containing mud, silt, or other pollutants from grading, aggregate washing, or other activities will not be allowed to enter ephemeral drainages or be placed in locations that may be subjected to high storm flows.
- c. Comply with all litter and pollution laws. All contractors, subcontractors, and employees will also obey these laws, and it will be the responsibility of the Project owner to ensure compliance.
- d. Spoil sites will be located at least 30 feet from the boundaries and drainages or in locations that may be subjected to high storm flows, where spoils might be washed back into drainages.
- e. Raw cement/concrete or washings thereof, asphalt, paint or other coating material, oil or other petroleum products, or any other substances that could be hazardous to vegetation or wildlife resources, resulting from Project-related activities, will be prevented from contaminating the soil and/or entering waters of the state. These materials, placed within or where they may enter a drainage, will be removed immediately.

- f. No broken concrete, debris, soil, silt, sand, bark, slash, sawdust, rubbish, cement or concrete or washings thereof, oil or petroleum products or other organic or earthen material from any construction or associated activity of whatever nature will be allowed to enter into, or placed where it may be washed by rainfall or runoff into waters of the state.
- g. When operations are completed, any excess materials or debris will be removed from the work area.
- h. No equipment maintenance within 150 feet of any ephemeral drainage where petroleum products or other pollutants from the equipment may enter these areas under any flow.

5.5 Weed Management

A Weed Management Plan (Appendix C) will be implemented to prevent the spread of existing weed species and the introduction of new weed species during construction, operations, and decommissioning. The weed species known to occur on-site and are therefore the target species for the Weed Management Plan are Saharan mustard (*Brassica tournefortii*), tamarisk (*Tamarix spp.*), Russian thistle (*Salsola tragus [=kali]*), Puncture vine (*Tribulus terrestris*), and Mediterranean grass (*Schismus spp.*). Weed control and management will be achieved through monitoring and applying appropriate control methods if expansions of the managed species are observed (see Weed Management Plan for details, Appendix C).

General measures to prevent the spread of weed propagules and inhibit their germination will include the following:

- Limiting disturbance areas during construction to the minimum required to perform work;
- Limiting ingress and egress to defined routes;
- Maintaining vehicle wash and inspection stations and closely monitoring the types of materials brought on site to minimize the potential for weed introduction;
- Revegetating temporarily disturbed areas as soon as possible to prevent weed establishment. Appropriate seed mixes will only be used;
- Employing manual, mechanical, and chemical control methods as appropriate to target species;
- After removal occurs, replanting areas with native seed mixes when possible and in a timely manner.
- Include weed control measures in the WEAP

6.0 CONSTRUCTION MONITORING AND REPORTING

6.1 Biological Monitoring during Construction

The details of DB, Designated Botanist, and BM will be responsible for enforcing the avoidance and minimization measures in this BRMIMP; specific duties are found in Section 2.0. The DB and BMs will keep a daily record of observations and daily monitoring activities using the data sheet in Appendix D. All encounters with federally or state-listed species will be reported to the DB, who will compile the following information for the MCR:

- Species, date, time of encounter, and weather conditions;
- Location (global positioning system coordinates, narrative, and maps);
- Behavior;
- General condition and health, including injuries and state of healing;
- Gender, size, diagnostic markings, including identification numbers or markers; and
- Description of translocation activities, such as location (global positioning system coordinates, narrative, and maps), burrow or site description to, date, time, weather, tortoise behavior, translocation methods.
- For tortoises, each individual will be thoroughly photographed. If permitted by USFWS and CDFG, a small, temporary identification number will be drawn on the tortoise in liquid paper or other water-soluble light paint for further documentation of individual tortoise encounters and activities.
- Observations of all listed species or species of special concern will be reported to the CDFG Natural Diversity Data Base within 10 days of sighting.

6.2 Wildlife Reporting Requirements

Observations of special-status species made during pre-construction surveys and daily construction monitoring activities will be recorded on data forms (Appendix E).

6.2.1 Special-status Species Observation

The DB will submit any sightings of any special-status species that are observed on or in proximity to the Project site, or during Project surveys, to the CNDDDB per CDFG requirements.

6.2.2 Dead or Injured Listed Species

If an injured or dead listed species, including road-kills, is detected within or near the Project Disturbance Area the CPM, the Ontario Office CDFG, and the Carlsbad Office USFWS will be notified immediately by phone. Notification will occur no later than noon on the business day following the event if it occurs outside normal business hours so that the agencies can determine if further actions are required to protect listed species. Written follow-up notification via FAX or electronic communication will be submitted to these agencies.

Injured Desert Tortoise. If a desert tortoise is injured as a result of Project-related activities during construction, the Designated Biologist or approved Biological Monitor will immediately take it to a CDFG-approved wildlife rehabilitation and/or veterinarian clinic. Any veterinarian bills for such injured animals will be paid by the Project owner. Following phone notification as required above, the CPM, CDFG, and USFWS shall determine the final disposition of the injured animal, if it recovers. Written notification will include, at a minimum, the date, time, location, circumstances of the incident, and the name of the facility where the animal was taken.

Desert Tortoise Fatality. If a desert tortoise is killed by Project-related activities during construction or operation, a written report with the same information as an injury report will be submitted to the CPM, CDFG, and USFWS. These desert tortoises shall be salvaged according to guidelines described in *Salvaging Injured, Recently Dead, Ill, and Dying Wild, Free-Roaming Desert Tortoise* (Berry 2001). The Project owner will pay to have the desert tortoises transported and necropsied. The report shall include the date and time of the finding or incident.

6.3 Monthly Compliance Reports

During construction, implementation of the avoidance and minimization measures in the BRMIMP will be reported in the MCR to the CPM by the DB. The MCRs will include copies of all written reports and summaries that document biological resources compliance activities (Table 8). Since monthly point count surveys will be performed for raven monitoring for the first five years, a summary of monthly raven monitoring efforts in the Monthly Compliance Report is recommended but not required per BIO-13 in the CEC’s Final Decision. In addition to the BM reports (Section 6.1), the MCR will include the following:

Table 8. Required Information Pertaining to Biological Resources for the Monthly Compliance Report

Condition		Information to be included
BIO-2	Designated Biologist Duties	Summaries of written records of the tasks specified in BIO-2 (Designated Biologist Duties) and those included in the BRMIMP. Copies of all written reports and summaries that document biological resource compliance activities.
BIO-4	Biological Monitor Duties	Copies of all written reports and summaries that document biological resource compliance activities conducted by Biological Monitors.
BIO-6	WEAP	Number of persons who have completed the WEAP training in the prior month and a running total of all persons who have completed the training to date.
BIO-7 BIO-8	BRMIMP	Implementation of BRMIMP measures (for example, construction activities that were monitored, species observed).
BIO-9	Desert Tortoise Clearance Surveys and Fencing	Implementation of desert tortoise measures pertaining to clearance surveys and fencing.
BIO-11	Desert Tortoise Compliance Verification	Beginning with the first month after clearing, grubbing, and grading are completed and continuing every month until construction is complete, submit the results of the monthly compliance inspections. This portion of the MCR will be submitted BLM, USFWS, and CDFG as well as the CPM.
BIO-18	Burrowing Owl Impact Avoidance, Minimization, and Compensation Measures	Implementation of burrowing owl avoidance and minimization measures.
BIO-19, Section A	Special-Status Plants	Implementation of the special-status plant impact avoidance and minimization measures (as executed by the Designated Botanist).
BIO-22	State Waters	Provide a discussion of work in waters of the state in Compliance Reports for the duration of the Project.

6.4 Annual Compliance Reports

Annual Compliance Reports summarize ongoing management activities of resources during construction and discuss if goals and performance standards for the given resource plan are being met. These reports will be submitted by January 31st of every year following a year in which project construction occurs, unless otherwise specified.

Table 9. Required Information Pertaining to Biological Resources for the Annual Compliance Report

Condition		Information to be included
BIO-2	Designated Biologist Duties	A summary of the records of the tasks specified in BIO-2 (DB Duties). Submitted to the CPM.
BIO-13	Raven Management Plan	A summary of the results of raven management and control activities for the year; a discussion of whether raven control and management goals for the year were met; and recommendations for raven management activities for the upcoming year. Submitted to CPM.
BIO-14	Weed Management Plan	A summary of the results of noxious weeds surveys and management activities for the year (which weed control methods were used and where); a discussion of whether weed management goals for the year were met; and recommendations for weed management activities for the upcoming year. Submitted to CPM.
BIO-15	Nesting Birds and Avoidance Buffers	Summary of success of buffer zones in preventing disturbance to nesting activity and a brief description of the outcome of the nesting effort. Submitted to the CPM, CDFG, and USFWS.
BIO-16	Avian Protection Plan	Summary of the results of the avian mortality monitoring for the year, a summary of the need for additional surveys (as determined by the CPM, BLM, CDFG, and USFWS), and whether adaptive management measures are necessary. Submitted to CPM, CDFG, USFWS, and BLM.
BIO-18	Burrowing Owl Monitoring	If owls were relocated, for the first five years after burrow construction, a summary of the results of monitoring and management of the burrowing owl relocation area(s) with respect to burrow function and weed infestation and will include recommendations for actions for the following year for maintaining burrows as functional nesting sites. Submitted to CPM, USFWS, BLM, and CDFG.
BIO-21	Evaporation Pond Monitoring	A summary of the monitoring results, including the dates, durations, and results of the monthly evaporation ponds surveys. Reports will fully describe any bird or wildlife fatalities or entanglements and will describe the actions taken to remedy these problems. Submitted to CPM, CDFG, BLM, and USFWS.
BIO-24	Revegetation Plan	A summary of revegetation activities for the year, a discussion of whether revegetation performance standards for the year were met; and recommendations for revegetation remedial action, if warranted, planned for the upcoming year. Submitted to CPM.

7.0 Operational Monitoring and Reporting

The following have monitoring and reporting requirements during Project operation:

- Weeds
- Revegetated Areas
- Common Ravens
- Project-related Avian Mortality
- Evaporation Ponds

Details of the monitoring methods and reporting requirements can be found in the Weed Management Plan, Revegetation Plan, Common Raven Monitoring, Management, and Control Plan, and the Avian Protection Plan located in Appendix C. Evaporation Pond monitoring is addressed in Section 9.4, below.

7.1 Non-compliance Resolution

The DB or BM will notify the CPM and BLM immediately (and no later than the morning following the incident, or Monday morning in the case of a weekend) of any non-compliance or a halt of any site mobilization, ground disturbance, grading, construction, or operation activities related to biological resources. If the non-compliance or halt to construction or operation relates to desert tortoise or any other federally or state-listed species, the Project owner will also notify the Carlsbad Office of USFWS and the Ontario Office of the CDFG at the same time. The Project owner will notify the CPM and BLM of the circumstances and actions being taken to resolve the problem.

Resolution of non-compliance issues will require the cooperation of the DB and/or Designated Botanist, CPM, ECM, and Crew Foreman. Through this cooperative effort, all involved parties would become aware of the issues, remediation measures, and reasons for future avoidance of similar and related noncompliance issues.

8.0 COMPENSATORY MITIGATION

Several of the conditions of approval include compensatory mitigation measures associated with the conservation of the following key resources: desert tortoise habitat, common raven, burrowing owl, sand dunes/Mojave fringe-toed lizard, and jurisdictional waters. Table 10 illustrates the recommended mitigation acreage calculations and Table 11 lists the total estimated acreage for compensation, cost, and verification information for each resource.

Table 10. Mitigation Acreage Calculations

Resource	Acres Impacted	Mitigation Ratio	Recommended Mitigation Acreage
1) Desert Tortoise Habitat – Direct Impacts			
Within Desert Wildlife Management Area/Critical Habitat	24	5:1	120
Outside Critical Habitat	1,750	1:1	1,750
Total Desert Tortoise Mitigation			1,870
2) Stabilized/Partially Stabilized Sand Dunes – Direct Impacts			
Direct Impacts	7.5	3:1	22
3) Playa and Sand Drifts Over Playa			
Direct Impacts	38	3:1	114
Total Mojave Fringe-toed Lizard Mitigation			136
4a) State Waters – Direct Impacts			
Microphyllous Riparian Vegetation	16	3:1	48
Unvegetated Ephemeral Dry Wash	53	1:1	53
4b) State Waters – Indirect Impacts			
Unvegetated Ephemeral Dry Wash	21	0.5:1	10
Total State Waters Mitigation			111

In accordance with the applicable COC (in particular BIO 12, 13, 18, 20, 22 and 29 and the USFWS Biological Opinion), the Project Owner will ensure that compensatory mitigation requirements are met by directly acquiring/managing mitigation land, contracting with an approved third party to acquire/manage mitigation land, depositing specified funds into the mitigation account established by the Renewable Energy Action Team (REAT), and/or depositing specified funds into an approved in-lieu fee account.

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Table 11. Compensatory Mitigation Requirements, Schedule, and Verification

Biological Resource (COC)	Estimated Acreage for Compensation	Cost	Schedule/Verification	Notes
Desert Tortoise (BIO-12)	<p>1,870 24 acres at 5:1 1750 acres at 1:1</p>	\$4,263,600	<ul style="list-style-type: none"> • The Project owner will provide the CPM with written notice at least 30 days prior to the start of ground-disturbing activities on the Project site. • If the mitigation actions required under this condition are not completed at least 30 days prior to the start of ground-disturbing activities, the Project owner will provide the CPM with approved Security at least 30 days prior to the start of Project ground-disturbing activities. • No later than 12 months after the start of ground-disturbing Project activities, the Project owner will submit a formal acquisition proposal to the CPM and will obtain approval from the CPM prior to the acquisition. • The Project owner or an approved third party will complete the acquisition and all required transfers of the compensation lands, and provide written verification no later than 18 months after the start of Project ground-disturbing activities. • The Project owner will complete and submit to the CPM a Property Analysis Record (PAR) or PAR-like analysis no later than 60 days after the CPM approves compensation lands for acquisition. • The Project owner will fully fund the required amount for long-term maintenance and management of the compensation lands no later than 30 days after the CPM approves a PAR or PAR-like analysis of the anticipated long-term maintenance and management costs of the compensation lands. • No later than 60 days after the CPM determines what activities are required to provide for initial protection and habitat improvement on the compensation lands, the Project owner will make funding available for those activities and provide written verification to the CPM of what funds are available and how costs will be paid. • Initial protection and habitat improvement activities on the compensation lands will be completed, and written verification provided to the CPM, no later than six months after the CPM's determination of what activities are required on the compensation lands. • The Project owner will provide the CPM, CDFG, BLM and USFWS with a management plan for the compensation lands within 180 days of the land or easement purchase, as determined by the date on the title. • Within 90 days after completion of all Project related ground disturbance, the Project owner will provide to the CPM, CDFG, BLM and USFWS an analysis, based on aerial photography, with the final accounting of the amount of habitat disturbed during Project construction. 	<p>Cost is based on 1,870 acres of desert tortoise habitat (will be adjusted to reflect the final Project footprint).</p> <p>See BIO-29 for another option for satisfying some or all of BIO-12 requirements.</p>

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Biological Resource (COC)	Estimated Acreage for Compensation	Cost	Schedule/Verification	Notes
Common Raven (BIO-13)	1,754	\$184,170	<ul style="list-style-type: none"> • No less than 30 days prior to any construction-related ground disturbance activities, the Project owner will provide the CPM, USFWS, and CDFG with the final version of a Raven Plan. • Within 30 days after completion of Project construction, the Project owner will provide to the CPM for review and approval, a written report identifying which items of the Raven Plan have been completed, a summary of all modifications to mitigation measures made during the Project's construction phase, and which items are still outstanding. • No less than 10 days prior to the start of any Project-related ground disturbance activities, the Project owner will provide documentation to the CPM. 	One-time payment of \$105 per acre of permanent disturbance to REAT Account.
Burrowing Owl (BIO-18)	39	\$143,045	<ul style="list-style-type: none"> • If pre-construction surveys detect burrowing owls within 500 feet of proposed construction activities, the DB will provide to the CPM, BLM, CDFG and USFWS documentation indicating that non-disturbance buffer fencing has been installed at least 10 days prior to the start of any construction-related ground disturbance activities. • The Project owner will report monthly to the CPM, CDFG, BLM and USFWS for the duration of construction on the implementation of burrowing owl avoidance and minimization measures. • Within 30 days after completion of construction the Project owner will provide to the CPM, BLM, CDFG and USFWS a written construction termination report identifying how mitigation measures described in the plan have been completed. • The Project owner will do all of the following if relocation of one or more burrowing owls is required: <ul style="list-style-type: none"> – No less than 90 days prior to acquisition of the burrowing owl compensation lands, the Project owner, or an approved third party, will submit a formal acquisition proposal to the CPM, CDFG, and USFWS describing the 39-acre parcel intended for purchase. At the same time the Project owner will submit a PAR or PAR-like analysis for the parcels for review and approval by the CPM, CDFG and USFWS. – Within 90 days of the land or easement purchase, as determined by the date on the title, the Project owner will provide the CPM with a management plan for review and approval, in consultation with CDFG, BLM and USFWS, for the compensation lands and associated funds. – No later than 30 days prior to the start of construction-related ground disturbing activities, the Project owner will provide written verification of Security in accordance with this COC. – No later than 18 months after the start of construction-related ground disturbance activities, the Project owner will provide written verification to the CPM, BLM, CDFG and USFWS that the compensation lands or conservation easements have been acquired and recorded. 	<p>Final amount due will be determined by PAR analysis pursuant to BIO-12.</p> <p>Anticipated displacement of two owls for a total of 39 acres of mitigation land (to be revised as appropriate).</p> <p>Amount may change based on land costs or the estimated costs of enhancement and endowment. 39 acres will be used as a placeholder for security.</p>

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Biological Resource (COC)	Estimated Acreage for Compensation	Cost	Schedule/Verification	Notes
Sand Dunes/Mojave Fringe-Toed Lizard (BIO-20)	136	\$422,668	<ul style="list-style-type: none"> No later than 30 days prior to beginning construction-related ground-disturbing activities, the Project owner will provide written verification of Security. The Project owner will complete and provide written verification of the proposed compensation lands acquisition within 18 months of the start of construction-related ground-disturbing activities. The Project owner will provide the CPM, CDFG and USFWS with a management plan for the compensation lands and associated funds within 180 days of the land or easement purchase, as determined by the date on the title. No less than 90 days prior to acquisition of the property, the Project owner will submit a formal acquisition proposal to the CPM, CDFG, and USFWS describing the parcels intended for purchase. At the same time the Project owner will submit a PAR or PAR-like analysis for the parcels for review and approval by the CPM. Within 90 days after completion of Project construction, the Project owner will provide to the CPM and CDFG an analysis with the final accounting of the amount of Mojave fringe-toed lizard habitat disturbed during Project construction. The Project owner will provide written verification to the CPM, USFWS and CDFG that the compensation lands or conservation easements have been acquired and recorded in favor of the approved recipient no later than 18 months after the initiation of construction related ground-disturbance activities. 	Amount may change based on land costs or the estimated costs of enhancement and endowment.
Off-Site State Waters (BIO-22)	111 (of which at least 48 acres are microphyll woodland)	\$342,768	<ul style="list-style-type: none"> No less than 30 days prior to beginning construction-related ground-disturbing activities the Project owner will provide written verification of Security. The Project owner will complete and provide written verification of the proposed compensation lands acquisition within 18 months of the start of construction-related ground-disturbing activities. The Project owner will provide the CPM, CDFG and USFWS with a draft management plan for the compensation lands and associated funds within 180 days of the land or easement purchase, as determined by the date on the title. Within 90 days after completion of Project construction, the Project owner will provide to the CPM and CDFG an analysis with the final accounting of the amount of jurisdictional state waters disturbed during Project construction. The Project owner will provide written verification to the CPM, USFWS and CDFG that the compensation lands or conservation easements have been acquired and recorded in favor of the approved recipient no later than 18 months after the start of construction-related ground-disturbing activities. On January 31st of each year following construction the DB will provide a report to the CPM, BLM, USFWS and CDFG that describes the results of monitoring and management of the acquisition lands. 	<p>Parcel(s) of land that include at least 111 acres of state jurisdictional waters or area of state waters directly or indirectly impacted by the final Project footprint and will include at least 48 acres of microphyll woodland.</p> <p>May be integrated with desert tortoise mitigation acquisition if the criteria described in this condition are met.</p> <p>The final amount due will be determined by an updated appraisals and the PAR analysis conducted as described in BIO-12.</p>

9.0 POST-CONSTRUCTION ACTIVITIES

The following sections provide details of post-construction requirements.

9.1 Construction Termination Report

Within 30 days after completion of Project construction, the Project owner will provide to the CPM, for review and approval, a written construction termination report identifying how mitigation measures have been completed.

9.2 Final Listed Species Mitigation Report

No later than 45 days after initiation of Project operation the DB will provide the CPM a Final Listed Species Mitigation Report that includes, at a minimum:

1. A copy of the mitigation implementation matrix in the BRMIMP with notes showing when each of the mitigation measures was implemented
2. All available information about Project-related incidental take of listed species
3. Information about other Project impacts on the listed species
4. Construction dates
5. An assessment of the effectiveness of COC in minimizing and compensating for Project impacts
6. Recommendations on how mitigation measures might be changed to more effectively minimize and mitigate the impacts of future Projects on the listed species
7. Any other pertinent information, including the level of take of the listed species associated with the Project.

9.3 Post-Construction Disturbance Calculation

The Project owner will submit pre-and post-construction aerial photographs of the Project Disturbance area to ensure that the extent of construction disturbance does not exceed 1,819.5 acres (Table 12). After construction is complete, the total acreage disturbed during construction will be calculated by comparing the pre-construction aerial photographs to the post-construction aerial photographs. Within 90 days of construction completion, Genesis Solar will submit a final report of actual disturbance to the CEC, BLM, CDFG, and USFWS for review and approval. The report will include a final accounting of the acreages of vegetation communities/cover types present before and after construction compared to the calculations estimated in the CEC License and BLM Record of Decision.

If post-construction disturbance calculations show that the actual acreage of disturbance is less than the estimated amount, the Project Owner would be eligible for a refund. If the actual acreage of disturbance is over the estimated amount, the Project Owner would be responsible for mitigating for the additional acreage. The amount of the refund or additional mitigation would be based on the difference in acreage of disturbance.

Table 12. Acreage of Direct and Indirect Impacts to Biological Resources

Resource	Acres Impacted
1) Desert Tortoise Habitat – Direct Impacts	
Within Desert Wildlife Management Area/Critical Habitat	24
Outside Critical Habitat	1,750
Total Desert Tortoise Mitigation	
2) Stabilized/Partially Stabilized Sand Dunes – Direct Impacts	
Direct Impacts	7.5
3) Playa and Sand Drifts Over Playa	
Direct Impacts	38
Total Mojave Fringe-toed Lizard Mitigation	
4a) State Waters – Direct Impacts	
Microphyllous Riparian Vegetation	16
Unvegetated Ephemeral Dry Wash	53
4b) State Waters – Indirect Impacts	
Unvegetated Ephemeral Dry Wash	21
Total State Waters Mitigation¹	
Total Direct Impacts (1, 2, 3)	1,819.5

¹ The direct disturbance acres for 4a are within the direct disturbance acres for 1, 2, and 3.
 The indirect disturbance acres for 4b are outside of the Project Disturbance Area

9.4 Operational Evaporation Pond Netting and Monitoring

The Project owner will cover the evaporation ponds prior to any discharge with 1.5-inch mesh netting designed to exclude birds and other wildlife from drinking or landing on the water of the ponds. Netting with mesh sizes other than 1.5-inches may be installed if approved by the CPM in consultation with CDFG and USFWS. The netted ponds will be monitored regularly to verify that the netting remains intact, is fulfilling its function in excluding birds and other wildlife from the ponds, and does not pose an entanglement threat to birds and other wildlife. The ponds will include a visual deterrent in addition to the netting, and the pond will be designed such that the netting will never contact the water.

Once constructed, the evaporation ponds will be un-netted for a short duration during construction prior to becoming operational. Rainwater ponding during construction is expected to be minimal and temporary given the xeric conditions in the Project Area; however, if ravens are observed congregating in the evaporation ponds as a result of temporary ponding from rainwater, consistent (daily) monitoring and hazing will be employed by the DB and BM to deter raven use (see Common Raven Monitoring, Management, and Control Plan, Appendix C).

For the first year of operation of the evaporation ponds, evaporation ponds will be monitored monthly by the DB or qualified designee to make sure the netted ponds are effective in excluding birds, if the nets pose an entrapment hazard to birds and wildlife, and to assess the structural integrity of the nets. The monthly survey will be conducted in one day for a minimum of two hours following sunrise (i.e., dawn), a minimum of one hour mid-day (i.e., 1100 to 1300), and a minimum of two hours preceding sunset (i.e., dusk) in order to provide an accurate assessment of bird and wildlife use of the ponds during all seasons; any bird or other wildlife deaths or entanglements within two days of the discovery to the CPM, CDFG, and USFWS. If after 12 consecutive monthly monitoring site visits, no bird or wildlife deaths or entanglements are detected at the evaporation ponds, monitoring visits can be reduced to being performed

quarterly. If after 12 consecutive quarterly site visits no deaths or entanglements are detected, site monitoring visits can be reduced to two per year (one spring visit and one visit during fall migration). In accordance with BIO-21 in the CEC's Final Decision, quarterly evaporation pond monitoring reports will be prepared for the first year of monitoring, afterwards, an annual report will be prepared and submitted to the CPM, CDFG, and USFWS.

Detailed monitoring and reporting of the evaporation ponds are also included in the Avian Protection Plan (Appendix C).

10.0 MITIGATION IMPLEMENTATION MATRIX

The following table contains the verification criteria, implementation phase, and effectiveness/success criteria for each COC and BLM mitigation measure.

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Table 13. Mitigation Implementation Matrix

Condition of Certification		Verification	Implementation Phase	Effectiveness Criteria
BIO-1	Designated Biologist Selection and Qualifications	No less than 30 days prior to the start of construction-related ground disturbance, the Project owner will submit the names of the designated biologists along with the completed USFWS Desert Tortoise Authorized Biologist Request Form to the USFWS and CPM.	Pre-construction	USFWS and CPM approval
BIO-2	Designated Biologist Duties	The Designated Biologist will provide written records that document compliance activities in MCRs.	Pre-construction	CPM review of MCRs
BIO-3	Biological Monitor Selection and Qualifications	No less than 30 days prior to site mobilization or construction-related ground disturbance, the Project owner will submit qualifications and training information about Biological Monitor(s) to the CPM. If additional Biological Monitors are needed during construction, their qualifications will be submitted to the CPM for approval no later than 10 days before the monitors duties will commence. The DB will submit a written statement to the CPM confirming that individual BMs have been trained including the date when training was completed.	Pre-construction	CPM approval
BIO-4	Biological Monitor Duties	Activities of the monitors will be included in the Designated Biologist's MCRs	Pre-construction	CPM review of MCRs
BIO-5	Designated Biologist and Biological Monitor Authority	Following an incident, the Designated Biologist will notify the CPM and BLM no later than the morning of the following business day. If an incident involves a federal or state-listed species, USFWS and CDFG will be notified on the same schedule. The BLM and CPM will be made aware of the circumstances of the incidents and how the problems will be resolved.	Pre-construction	CPM assessment of corrective actions, in consultation with CDFG, BLM, and USFWS.
BIO-6	WEAP	No less than 30 days prior to the start of construction-related ground disturbance, the Project owner will provide the CPM, USFWS, and CDFG a copy of the final WEAP, supporting documents, and qualifications of person(s) administering program. The number of persons who have completed the WEAP will be included in the MCR submitted by the Project owner. All permanent employees will repeat the WEAP annually; new employees will complete the training within 7 days of beginning work at the site. Evidence of WEAP training completion by will be in the form of a certificate or visible sticker on the employee's hardhat.	Pre-construction, construction, and operations	CPM approval
BIO-7	BRMIMP	No less than 30 days prior to the start of any site mobilization or construction-related ground disturbance, the Project owner will provide the CPM a copy of the full draft BRMIMP; the BLM, CDFG, and USFWS will be provided with the sections of the BRMIMP relating to federal or state-listed species on the same schedule. The final BRMIMP will be provided to the CPM seven (7) days prior to the start of any construction-related ground disturbance; final BRMIMP. The BRMIMP will be revised or supplemented if any permits are received after the final BRMIMP is submitted; the Project owner will submit the updated BRMIMP to the CPM within 10 days following the receipt of additional permits.	Pre-construction, construction, and operations	CPM approval; BLM, USFWS, CDFG review

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Condition of Certification		Verification	Implementation Phase	Effectiveness Criteria
BLM BIO-7a	Climate Change	The Applicant will ensure that monitoring accomplished under BIO-7 and other mitigating measures use available climatological data when analyzing Project effects or resource trends.	Construction	CPM review of MCRs
BIO-8	Impact Avoidance and Minimization Measures	The BRMIMP will include all mitigation measures; the Designated Biologist's MCR will report on implementation of the measures. Within 30 days after completion of Project construction, the Project owner will submit to CPM a written construction termination report identifying how measures have been completed.	Pre-construction, Construction, Operations	CPM review of MCR. Applicable plan approval by CPM.
BIO-9	Desert Tortoise Clearance Surveys and Fencing	The BRMIMP will include all mitigation measures and their implementation methods; the Designated Biologist's MCR will document the implementation of the mitigation measures. Within 30 days after the completion of desert tortoise clearance surveys the Designated Biologist will submit a report to the CPM, USFWS, and CDFG describing implementation of mitigation measures.	Pre-construction, Construction	Information contained in BRMIMP, the CPM, USFWS, and CDFG review of MCR.
BIO-10	Desert Tortoise Translocation Plan	Within 30 days prior to site mobilization or construction related ground disturbance, the Project owner will provide the CPM with the final approved Desert Tortoise Translocation Plan.	Pre-construction	CPM approves plan and any modifications to plan, with BLM, CDFG, and USFWS consultation
BIO-11	Desert Tortoise Compliance Verification	No later than 2 days following the notification of a sighting, injury, kill, or relocation of a listed species, the Project owner submit to the CPM, CDFG, and USFWS via electronic communication the Designated Biologist's written report describing all reported incidents (described above) of listed species, describing who was notified and when the incident occurred. A map will be submitted to the CPM, CDFG, USFWS. For each month of construction, the Project owner will submit in the MCR with details about land Monthly compliance inspections of land disturbing construction activities to the CPM, BLM, USFWS, and CDFG. No later than 45 days after Project initiation the Designated Biologist will provide the CPM with a Final Listed Species Mitigation Report.	Pre-construction, Construction, Operation	The CPM, CDFG, USFWS review of incident reports. CPM review of mitigation report. CPM, CDFG, USFWS, and BLM review of MCR.

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Condition of Certification		Verification	Implementation Phase	Effectiveness Criteria
BIO-12	Desert Tortoise Compensatory Mitigation	<p>CPM will receive notice at least 30 days prior to ground-disturbing activities. If mitigation actions are not completed at least 30 days prior to ground-disturbing activities, the CPM will be provided with the approved Security at least 30 days prior to start of Project ground-disturbing activities.</p> <p>No later than 12 months after the start of ground-disturbing Project activities, the Project owner will submit a formal proposal to acquire lands to CPM; no later than 18 months after construction commence, verification of land purchase will be sent to the CPM, CDFG, BLM, and USFWS.</p> <p>The Project owner will conduct a property analysis (PAR) or similar analysis no later than 60 days after the CPM approved compensation lands for acquisition; money for maintenance of compensation lands will be provided no later than 30 days after the PAR is approved; no later than 60 days after the CPM determines the required compensation land activities, the CPM will receive verification that funds are available; no later than 6 months after the CPM's approval of activities on compensation, habitat improvement on the compensation lands will be completed.</p>	Pre-construction	CPM, CDFG, BLM, USFWS approval of land purchase and management.
BIO-13	Raven Management Plan	<p>No less than 30 days prior to any construction-related ground disturbance activity, the Project owner will provide the CPM, USFWS, and CDFG with a final version of a Raven Plan.</p> <p>Within 30 days after completion of Project construction, the Project owner will provide the CPM with a written report pertaining to the Raven Plan.</p> <p>On January 31st of each year following construction, the Designated Biologist will provide a report to the CPM outlining Raven management and control activities.</p> <p>No less than 10 days prior to the start of Project-related ground disturbance, the Project owner will provide documentation to the CPM, BLM, CDFG, and USFWS that funds have been deposited to the REAT-NFWS sub-account for the Project.</p>	Pre-construction, Construction, Operation	CPM, USFWS, CDFG review of Raven Plan. CPM and USFWS approval of plan. CPM review of yearly report post-construction.
BIO-14	Weed Management Plan	<p>No less than 10 days prior to the start of Project-related ground disturbance activities, the Project owner will provide the CPM with the final Weed Management Plan.</p> <p>Within 30 days after completion of Project construction, the Project owner will provide the CPM an update on weed management activities.</p> <p>On January 31st of each year following construction the Designated Biologist will submit a report to the CPM that provides documentation and update of weed management activities</p>	Preconstruction, Construction, Operation	CPM, USFWS, and CDFG approval of plan and any modifications to plan. CPM review of annual report post-construction.
BIO-15	Pre-Construction Nest Surveys and Avoidance Measures	<p>Prior to the start of any Project-related ground disturbance activities, the Project owner will submit a report to the CPM describing findings of pre-construction nest surveys.</p> <p>No later than January 31st of every year following construction a follow-up report will be submitted to CPM, CDFG, and USFWS describing the success of buffer zones in preventing disturbance to nesting activity and results of nesting effort.</p>	Preconstruction, Construction	The CPM, CDFG, and USFWS review of reports.

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Condition of Certification		Verification	Implementation Phase	Effectiveness Criteria
BIO-16	Avian Protection Plan	No less than 30 days prior to the start of construction-related ground disturbance activities, the Project owner will submit to the CPM, USFWS, and CDFG a final Avian Protection Plan. For one year following the beginning of power plant operation, the Designated Biologist will submit quarterly avian monitoring reports to the CPM, CDFG, and USFWS; an annual report will be prepared by the Designated Biologist to detail findings for the monitoring year and suggest future monitoring and management actions.	Preconstruction, Construction, Operation	The CPM, USFWS, CDFG approval of avian plan. CPM, CDFG, and USFWS review of monitoring reports.
BIO-17	American Badger and Kit Fox Avoidance and Minimization Measures.	The Project owner will submit surveys to the CPM and CDFG within 30 days of Project completion. Reports will include mitigation measures.	Post-construction	CPM and CDFG review of reports.
BIO-18	Burrowing Owl Impact Avoidance, Minimization, and Compensation Measures	If pre-construction surveys detect burrowing owls within 500 feet of proposed construction activities, the Designated Biologist will provide the CPM, BLM, CDFG, and USFWS documentation indicating that non-disturbance fencing has been installed at least 10 days prior to construction-related ground disturbance. The Project owner will report monthly to the CPM, CDFG, BLM, and USFWS on implementation of mitigation measures. Within 30 days of Project completion, the Project owner will provide the aforementioned agencies a report detailing how mitigation measures in the plan have been completed. If a relocation is necessary, the aforementioned agencies will be notified by the Project owner no less than 10 days after pre-construction survey completion. The necessity of owl relocation will trigger additional reporting requirements including reports to CPM on compensation lands, funds available for compensation lands, and an annual monitoring and management report of the owl relocation area.	Pre-construction, Construction	The CPM, BLM, CDFG, USFWS approval of mitigation measures. Applicable land acquisition and management plan approval by CPM.
BIO-19	Special-Status Plant Impact Avoidance, Minimization, and Compensation	Special-Status plant avoidance and minimization measures will be incorporated in the BRMIMP.	Preconstruction, Construction, Operation	Information contained in BRMIMP. The BLM and CPM review of surveys. Notification to CPM, USFWS, CDFG, and BLM of species discovery. CPM review of MCR. CPM, in consultation with BLM state botanist, approval of construction termination report.
	Section A: Special-Status Plant Impact Avoidance and Minimization Measures	Pre-construction survey data and mapping will be submitted to CPM and BLM state botanist no less than 30 days prior to ground-disturbing activities. Notification to CPM, USFWS, CDFG, and BLM if state or federally listed species or BLM Sensitive species are discovered on site throughout the life of the Project. The Designated Botanist will submit monthly summaries to be included in the MCR. Within 30 days of completion of construction, the Project owner will provide a written construction termination report identifying how measures have been completed.		
	Section B: Conduct Late Season Botanical Surveys	Preliminary summary of results of survey will be submitted to the CPM and BLM state botanist within two weeks following completion of surveys. The final survey report will be submitted to the BLM state botanist no less than 30 days prior to the start of ground-disturbing activities.	Completed Fall 2010	CPM and BLM review of report.

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Condition of Certification		Verification	Implementation Phase	Effectiveness Criteria
	Section C: Avoidance Requirements for Special-Status Plants Detected in the Summer/Fall 2010 Surveys	No special-status plants detected in Summer/Fall 2010 Surveys; therefore, no avoidance requirements required for late-season annual plants.	N/A	N/A
	Section D: Off-Site Compensatory Mitigation for Special-Status Plants	No mitigation required	N/A	N/A
BIO-20	Sand Dune Community/Mojave Fringe-Toed Lizard Mitigation	<p>No later than 30 days prior to beginning construction-related ground-disturbing activities, the Project owner will provide written evidence of financial Security.</p> <p>Acquisition of compensatory lands will occur within 18 months of the start of ground-disturbing activities; written verification sent to CPM, CDFG, and USFWS.</p> <p>The Project owner will provide the CPM, CDFG, and USFWS with a management plan for compensation lands within 180 days of land purchase.</p> <p>No less than 90 days prior to compensation land acquisition, the Project owner will submit a formal acquisition proposal to the aforementioned agencies describing the parcels for purchase and also submit a PAR or similar analysis. A final account of habitat disturbed during Project construction will be provided to CPM and CDFG within 90 days after completion of Project construction.</p>	Pre-Construction, Construction, Operation	<p>CPM, CDFG, and USFWS approval of purchased lands and their management.</p> <p>Management plan will be approved by CPM in consultation with CDFG and USFWS.</p>
BIO-21	Evaporation Pond Monitoring	<p>No less than 30 days prior to operation of evaporation ponds the CPM will be provided with as-built drawings and photographs of the ponds indicating that bird exclusion netting has been installed.</p> <p>For the first year of operation, the Designated Biologist will submit quarterly reports to the CPM, CDFG, USFWS of listing details of site visits to evaporation ponds. Thereafter, the Designated Biologist will submit annual monitoring reports with this information to CPM, CDFG, and USFWS no later than January 31st of every year for the life of the Project.</p>	Operations	CPM review of as-built drawings. CPM, CDFG, and USFWS review of monitoring reports.
BIO-22	Mitigation for Impacts to State Waters	<p>No less than 30 days prior to the start of construction-related ground disturbance activities potentially affecting waters of the state, the Project owner will provide written verification (i.e., through incorporation into the BRMIMP) to the CPM that BMPs will be implemented.</p> <p>The Project owner will notify the CPM and CDFG of any change of conditions to the Project, impacts to state waters, or the mitigation efforts. The notifying report will be provided to the CPM and CDFG no later than seven days after the change of conditions is identified. A copy of the notifying Change of Conditions report will be included in the annual reports or until it is deemed unnecessary by the CPM, in consultation with CDFG.</p> <p>The Project owner will provide CPM, CDFG, and USFWS with a draft management plan for compensation lands within 180 days of the purchase date.</p>	Pre-construction, Construction, Post-construction	Contained in BRMIMP. CPM, CDFG, and USFWS approval of management plan for compensation lands (if applicable).

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 Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP)

Condition of Certification		Verification	Implementation Phase	Effectiveness Criteria
BIO-23	Decommissioning Plan	<p>No less than 30 days prior to initiating construction-related ground disturbance activities, the Project owner will provide the BLM and CPM a draft Decommissioning and Closure Plan.</p> <p>The plan should be finalized prior to the start of commercial operation and reviewed every five years thereafter and submitted to the CPM for approval, with BLM consultation.</p> <p>No less than 10 days prior to construction-related ground disturbance, the Project owner will provide financial assurances to the CPM to guarantee funding to implement the plan.</p>	Pre-construction Operation	CPM and BLM approval of plan. CPM verification of financial assurance.
BIO-24	Revegetation of Temporarily Disturbed Areas	<p>No less than 30 days prior to construction-related ground disturbance activities, the Project owner will submit to the CPM a final Revegetation Plan.</p> <p>Within 30 days after completion of Project construction, the Project owner will provide the CPM with a Revegetation Plan report, including which items are still outstanding.</p> <p>The Designated Biologist will submit reports per the plan by January 31st following each relevant reporting year.</p>	Pre-construction, Construction, Operation	The CPM approval of plan and all modifications to plan.
BIO-27	Couch's Spadefoot Toad Mitigation	<p>No less than 30 days prior to construction related ground disturbance, the Project owner will submit to the CPM and CDFG a final Protection and Mitigation Plan. Modifications to the plan require CPM approval, with CDFG consultation.</p> <p>If applicable, and no less than 90 days prior to operation, the CPM will be provided with as-built drawings and photographs of the created mitigation ponds.</p> <p>Also, if applicable, on January 31st of every year following the initiation of operation, the Project owner will submit reports to the CPM documenting capacity of the created ponds to hold water during breeding season, and reporting terminates when ponds are found to be successful by the CPM.</p>	Pre-construction, Construction and Operation	CPM and CDFG approval of plan. CPM review of as-built drawings. CPM review of monitoring reports.
BIO-28	Golden Eagle Inventory & Monitoring	<p>No fewer than 30 days from the completion of golden eagle inventory, the Project owner will submit a report to the CPM, CDFG, and USFWS documenting the results of the inventory.</p> <p>If an occupied nest is detected within one mile of the Project boundary during the inventory, the USFWS and CDFG will be contacted within one working day.</p> <p>A Golden Eagle Monitoring and Management Plan will be submitted to CPM, CDFG, and USFWS within 30 days if a nest is detected.</p>	Pre-construction, Construction, Operation	The CPM, CDFG, and USFWS review of inventory and applicable plan.
BIO-29	In-Lieu Fee Mitigation Option	<p>The Project owner will notify CEC and all other interested parties that it would like a determination that the Project's in-lieu fee proposal meets California Environmental Quality Act and CESA requirements. Proof of the in-lieu fee payment will be made to the CPM prior to construction.</p>	Pre-construction	The CEC and CPM receipt of fee payment verification.

11.0 FACILITY CLOSURE

11.1 Temporary Closure

Temporary closures may be necessary in the event of disastrous events or unfavorable economic conditions. In the case of temporary closure, measures to protect biological resources would be needed only if there were surface disturbances or releases of harmful materials. If such an event occurs, Genesis Solar will consult with the responsible agencies to plan cleanup and mitigation of impacts to biological resources.

All Project features with openings at ground level must be covered or capped securely for the duration of the temporary closure. They may be opened for periodic inspection, but must be covered and secured immediately after being inspected.

11.2 Permanent Closure

Permanent closure will occur at the end of the facility's operational phase. Genesis Solar has prepared a Conceptual Decommissioning and Closure Plan (Appendix C); upon Project closure the Project owner will implement a final Decommissioning and Closure Plan. This plan will include a cost estimate for implementing the proposed decommissioning and reclamation activities, and will be consistent with the guidelines in BLM's 43 Code of Federal Regulations 3809.550 et seq., subject to review and revisions from the CPM in consultation with BLM, USFWS, and CDFG. Within 10 days prior to initiating construction-related ground disturbance activities the Project owner will provide financial assurances to the CPM to guarantee that an adequate level of funding would be available to implement measures described in the Decommissioning and Closure Plan. The plan will include take avoidance and mitigation requirements applicable to the sensitive biological resources in the area at that time. The plan will also include reclamation of areas where facilities would be removed, including transmission conductors and all other power plant facilities, in order to restore wildlife habitat and promote the re-establishment of wildlife species. Techniques to restore the habitat will be presented in a detailed plan and approved by the resource agencies.

12.0 BRMIMP MODIFICATION PROCEDURES

12.1 Revisions to the BRMIMP

Any changes to the BRMIMP must be approved by the CPM and in consultation with CDFG, BLM, and USFWS. If any permits have not yet been received when the final BRMIMP is submitted, these permits will be submitted to the CPM within five days of their receipt, and the BRMIMP will be revised or supplemented to reflect the permit condition(s). The Project owner will submit to the CPM the revised or supplemented BRMIMP within 10 days following the Project owner's receipt of any additional permits. Under no circumstances will ground disturbance proceed without implementation of all permit conditions.

12.2 Maintaining and Distributing the BRMIMP

It is Genesis Solar's responsibility to maintain and distribute the BRMIMP and any changes to the BRMIMP. During the construction phase of the Project, this task has been delegated to the Environmental Construction Manager and the DB. During Project operation, the on-site environmental manager or other compliance staff will be responsible for keeping the plan up to

date. The BRMIMP will initially be distributed in three-ring binders so that changes can be distributed without supplying a new copy of the entire document. The plan will be distributed to the following individuals or their successors as shown in Table 14 below:

Table 14. Recipients and Distribution of the BRMIMP

Title/ Entity	No. Copies
CPM	2
AO	2
ECM	2
DB	1 plus copies for each BM
Designated Botanist	1
USFWS (applicable sections only)	2
CDFG applicable sections only)	2

13.0 REFERENCES

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FIGURES

APPENDIX A

**CEC ENVIRONMENTAL ASSESSMENT, BIOLOGICAL RESOURCES
COCS, AND BLM MITIGATION MEASURES**

APPENDIX B
USFWS SECTION 7 BIOLOGICAL OPINION

APPENDIX C

BIOLOGICAL RESOURCE MONITORING AND MANAGEMENT PLANS

- Appendix C.1 Weed Management Plan
- Appendix C.2 Revegetation Plan
- Appendix C.3 Couch's Spadefoot Toad Protection and Mitigation Plan
- Appendix C.4 Desert Tortoise Translocation Plan
- Appendix C.5 Burrowing Owl Relocation and Mitigation Plan
- Appendix C.6 Nesting Bird Monitoring and Management Plan
- Appendix C.7 Golden Eagle Monitoring and Management Plan
- Appendix C.8 Common Raven Monitoring, Management, and Control Plan
- Appendix C.9 Avian Protection Plan
- Appendix C.10 Decommissioning and Closure Plan

Appendix C.1 Weed Management Plan

Appendix C.2 Revegetation Plan

Appendix C.3 Couch's Spadefoot Toad Protection and Mitigation Plan

Appendix C.4 Desert Tortoise Translocation Plan

Appendix C.5 Burrowing Owl Relocation and Mitigation Plan

Appendix C.6 Nesting Bird Monitoring and Management Plan

Appendix C.7 Golden Eagle Monitoring and Management Plan

Appendix C.8 Common Raven Monitoring, Management, and Control Plan

Appendix C.9 Avian Protection Plan

Appendix C.10 Decommissioning and Closure Plan

APPENDIX D

SURVEY PROTOCOL

- Appendix D.1 USFWS Clearance Survey Protocol for the Desert Tortoise – Mojave Population
- Appendix D.2 Nest Monitoring Plots: Methods for Locating Nests and Monitoring Success
- Appendix D.3 Burrowing Owl Survey Protocol and Mitigation Guidelines
- Appendix D.4 Interim Golden Eagle Inventory and Monitoring Protocols; and Other Recommendations

APPENDIX E

DATA FORMS

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| Appendix E.1 | USFWS Desert Tortoise Clearance Survey Reporting Data Sheet |
| Appendix E.2 | Pre-construction Survey Form |
| Appendix E.3 | Biological Monitor Daily Report Form |
| Appendix E.4 | Construction Wildlife Incident Forms |