California Department of Fish and Wildlife
Inland Deserts Region
3602 Inland Empire Blvd., Suite C-220
Ontario, CA 91764

California Endangered Species Act
Incidental Take Permit No. 2081-2015-046-06

Southern California Desert Gas Pipeline
Operation and Maintenance Activities Project

I. Authority:

This California Endangered Species Act (CESA) incidental take permit (ITP) is issued by the California Department of Fish and Wildlife (CDFW) pursuant to Fish and Game Code section 2081, subdivisions (b) and (c), and California Code of Regulations, Title 14, section 783.0 et seq. CESA prohibits the take[1] of any species of wildlife designated by the California Fish and Game Commission as an endangered, threatened, or candidate species.[2] However, CDFW may authorize the take of any such species by permit pursuant to the conditions set forth in Fish and Game Code section 2081, subdivisions (b) and (c). (See Cal. Code Regs., tit. 14, § 783.4).

Permittee:	**Pacific Gas and Electric Company**
Principal Officer:	**Jon Wilcox, Manager**
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II. Effective Date and Expiration Date of this ITP:

This ITP shall become effective when signed by all parties and received by CDFW as described in the Notices section of this ITP. Unless renewed by CDFW, this ITP and its authorization to take the Covered Species shall expire on **January 1, 2053**.

Notwithstanding the expiration date on the take authorization provided by this ITP, Permittee's obligations pursuant to this ITP do not end until CDFW accepts as complete the Permittee's Final Mitigation Report required by Condition of Approval 6.7 of this ITP.

[1]Pursuant to Fish and Game Code section 86, "'take' means hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." (See also *Environmental Protection Information Center v. California Department of Forestry and Fire Protection* (2008) 44 Cal.4th 459, 507 [for purposes of incidental take permitting under Fish and Game Code section 2081, subdivision (b), "'take' … means to catch, capture or kill".)

[2]The definition of an endangered, threatened, and candidate species for purposes of CESA are found in Fish and Game Code sections 2062, 2067, and 2068, respectively.

III. Project Location:

The California Desert Gas Pipeline Operation and Maintenance Project (Project) is located generally in the Mojave Desert region from the City of Tehachapi, east to the California border approximately 15 miles southeast of Needles, and from the City of Ridgecrest, south to the City of Victorville, in San Bernardino and Kern Counties. The Project is located along approximately 645 miles of an existing natural gas transmission pipeline system generally within the existing right-of-way (ROW), along the established access roads, and can include areas up to 0.25 mile beyond the ROW, where needed (See Figure 1).

The Permittee's gas transmission pipeline system in the Mojave Desert region consists of five natural high-pressure transmission pipelines—Line 300 A, Line 300 B, Line 311, Line 372, Line 313, and Line 314, several distribution feeder mains (DFMs), customer lines, and associated facilities that transport natural gas to commercial, military, industrial, utility electric generation, and residential customers. The pipelines have customer connections or "taps" that serve customers and businesses. These customer taps are generally located at valve stations along the pipeline route.

The pipelines and related support facilities are located on federal, state, private, and municipal land. Of the approximately 645 miles of transmission pipeline in the program area, approximately 346 miles are located on Bureau of Land Management (BLM)-managed lands; 48 miles are located on military lands; less than 1 mile is located on CDFW-managed lands; 3 miles are located on lands managed by the California State Lands Commission (CSLC); 2 miles are located on US Fish and Wildlife Service (USFWS)-managed lands; 245 miles are located on private, non-government-owned lands; and less than 1 mile is located on land owned by Kern County. The area includes land within the California Desert Conservation Area (CDCA) and land located east of the CDCA but west of the Colorado River.

Lines 300 A and B - Lines 300 A and Line 300 B are two parallel, high-pressure natural gas pipelines that run from the California-Arizona border to the San Francisco Bay Area. Portions of these pipelines are 34 inches in diameter, and other portions are 36 inches in diameter. The Mojave Desert region includes approximately 226 miles of Lines 300 A and 300 B, located within portions of San Bernardino and Kern Counties. The eastern ends of Lines 300 A and Line 300 B begin at the Colorado River in San Bernardino County, which is approximately 15 miles southeast of the City of Needles, and pass through the Permittee's Topock Compressor Station. The pipeline routes then proceed west for approximately 170 miles and pass through the communities of Essex and Daggett, the City of Barstow, and Permittee's Hinkley Compressor Station which receives and moves natural gas west through the pipelines. West of Hinkley Compressor Station, the pipelines then continue for approximately 56 miles to the City of Mojave in Kern County, after which they depart the Mojave Desert region and terminate in the San Francisco Bay Area. The portions of Lines 300 A and 300 B in the Mojave Desert region are located on approximately 136 miles and 131 miles, respectively, of BLM-managed lands; 21 miles of military-managed lands; 1 mile of CSLC -managed lands; and 67 miles of private, non-government-owned lands. The approximate ROW widths are 15 to 100 feet.

Line 311 and Line 372- Line 311 and Line 372 are 10 to 12-inch diameter, high-pressure natural gas pipelines that cross the western portion of San Bernardino County. The pipeline begins at Line 300 A, as Line 311, at the intersection of State Route 58 and U.S. Highway 395 near Kramer Junction in San Bernardino County. Line 311 runs north for approximately 24 miles along U.S. Highway 395 and then continues north along Trona Road. Several DFMs and customer lines originate from Line 311. The pipeline splits at milepost 43, with one section (Line 311) continuing toward the City of Trona in San Bernardino County and the other section (Line 372), continuing to its endpoint near the City of Ridgecrest in Kern County. Line 311 is located on approximately 41 miles of BLM-managed lands; 2 miles of military-managed lands; less than 0.1 miles of CDFW-managed lands; 1 mile of CSLC-managed lands; and 11 miles of private, non-government-owned lands. Line 372 is located on approximately 3 miles of BLM-managed lands and less than 1 mile of military-managed lands. The approximate ROW widths are 10 to 50 feet.

Line 313- Line 313 is an 8 to 10-inch diameter, high-pressure natural gas pipeline located in San Bernardino County. The pipeline begins at Line 300 A, approximately 2.5 miles east of the community of Daggett (milepost 0) along Interstate 40. Line 313 runs south for approximately 34 miles along Camp Rock Road to its endpoint, which is approximately 8 miles southeast of Lucerne Valley (milepost 34). The pipeline is located on approximately 20 miles of BLM-managed lands and 15 miles of private, non-government-owned lands. The approximate ROW widths are 10 to 50 feet.

Line 314- Line 314 is a high-pressure natural gas pipeline located in San Bernardino County. Portions of this pipeline are 8 inches, 10 inches, and 12 inches in diameter. The pipeline begins at Line 300 A, approximately 2.5 miles west of Barstow (milepost 0). The pipeline runs south for approximately 27 miles and then runs east for approximately 16 miles to its endpoint, which is approximately 4 miles east of the Town of Apple Valley (milepost 43). The pipeline is located on approximately 6 miles of BLM-managed lands and 38 miles of private lands. The approximate ROW widths are 10 to 50 feet.

Distribution Feeder Mains and Associated Facilities- The Permittee operates several DFMs and associated pipelines that extend the delivery of gas to customers. Many of these lines branch off Lines 300 A and 300 B and are located near the Topock Compressor Station and the communities of Edwards, Boron, Kramer Junction, and Amboy. An additional DFM is located on the northern end of Line 311 and runs toward the cities of Ridgecrest and Trona. These DFMs and associated pipelines deliver gas to a variety of customers, including Edwards Air Force Base, Naval Air Weapons Station China Lake, City of Trona, and solar facilities. All the pipelines in the Mojave Desert have customer taps that serve residents and businesses. The approximate ROW widths are 5 to 25 feet.

IV. Project Description:

The Project includes the ongoing operation and maintenance (O&M) of approximately 645 miles of the natural gas pipeline system. Project O&M activities occur daily along different portions of the system that includes the gas pipelines and related facilities, such as compressor stations and valve

lots, access roads, cathodic protection systems, and telecommunication facilities. The type, number, frequency, and duration of the O&M activities will vary over time depending on the need for testing, maintenance, repair, replacement, or installation of equipment or facility components, and/or emergencies and regulatory obligations. The number of O&M activities recently range from 34 to 52 activities per year, with an annual average of 14 activities.

Project-related O&M activities and whether the activity results in temporary or permanent surface disturbance are described below. Permanent surface disturbance is defined as longer-term effects to the environment typically the result of permanent clearing/loss of habitat from the installation or expansion of structures and facilities. Temporary surface disturbance is defined as effects to the environment short in duration and typically associated with surface disturbance or vegetation clearing. The surface disturbance varies depending on the nature of the O&M activity, its location, and the available technologies.

Pipeline Patrols- Compliance with federal and state pipeline safety regulations requires periodic aerial and ground patrols of the gas transmission lines. Permittee will conduct patrols of the pipelines and associated facilities on foot and using all-terrain vehicles and/or small trucks or sport utility vehicles (SUVs) along existing access and pipeline patrol roads. Existing access roads are for accessing the ROW, and existing patrol roads are located along the pipelines within the ROW. For aerial patrols, fixed-wing aircraft or helicopters are used. Pipeline patrol crews generally consist of one or two workers. The purpose of the patrols is to observe surface conditions above and adjacent to the pipeline ROW, to conduct leak detection, to ensure that pipeline markers are clearly visible, and to record conditions that might affect safety and operation. Ground patrols are also used to read gas meters. Ground pipeline patrols are conducted quarterly to annually. Aerial pipeline patrols are conducted quarterly. No surface disturbance is associated with pipeline patrol activities.

Pipeline Marker Maintenance- Pipeline marker maintenance consists of the replacement of pipeline markers due to vandalism or weather-related issues. During pipeline marker maintenance, Permittee crews auger a 14-inch-diameter hole 31 inches into the ground, place a pipe post into the hole, and backfill the hole with concrete or other backfill material. A paddle marker is then attached to the pipe. The work area is limited to approximately 50 feet by 20 feet and direct surface disturbance is approximately 4 square feet. Equipment used for pipeline marker maintenance unusually involves a pickup truck, water buffalo tank, and posthole auger. Pipeline markers are inspected once per year and are replaced as needed due to weather- or vandalism-related issues.

Valve Inspections and Lubrication- Valves are located at multiple locations along all pipelines, wherever pressure/flow must be controlled or diverted to another gas line or facility. Valves are often located inside vaults or fenced areas and are accessed by a two- or three-member maintenance crew. Workers lubricate the valves as necessary, using a gun pump to apply either oil or grease. The sites are accessed using existing access roads and pipeline patrol roads. Equipment used for valve inspections and lubrication usually includes light trucks to provide access to the valve sites. Permittee

inspects the valve sites along the pipelines and tests the valves several times per year. No surface disturbance is associated with valve inspections and lubrication activities.

Integrity Management- Permittee inspects cathodic protection by checking the electric current at various electronic test system stations (ETSS) and cathodic test stations (CTS) along the line and at anode bed sites. Anode beds are part of the cathodic protection system and are usually spaced 0.25 to 10 miles apart along the pipeline. ETSS and CTS facilities are typically placed between 0.25 miles and 0.5 miles apart along the pipeline. Simple testing instruments are used. Crews conducting integrity management activities typically consist of one or two workers. The sites are accessed with light truck using existing access and pipeline patrol roads. Permittee inspects cathodic protection every 2 months, or as indicated by the integrity management team. Typical surveys take approximately 10 days to complete and include the length of the pipeline within the region. No surface disturbance is associated with integrity management activities.

Telecommunication Site Inspections- Telecommunication sites are used to monitor gas pipeline functions remotely. The sites are accessed with light trucks using existing access and pipeline patrol roads. Fixed-wing aircraft and helicopters may also be used for inspecting sites in remote locations. Telecommunication site inspections typically require one to two workers. Telecommunication sites are typically inspected monthly, but inspections may be performed more frequently to maintain the system. No surface disturbance is associated with telecommunication site inspection activities.

Road Surface Maintenance- Road surface maintenance keeps roads in a passable and safe condition. Because all vehicles are required to stay on existing roads, this activity does not result in new surface disturbance and/or alter the road profile. The length of the road that is subject to surface maintenance in any given year varies due to weather and the degree of washouts or damage. A large percentage of this damage is caused by erosion and flash flooding. Road surface maintenance typically involves two to four workers or contractors. An average year could require maintenance of approximately 50 miles of patrol roads and 30 miles of access roads. Typically, road surface maintenance is accomplished using a motor grader, backhoe, or front loader. Road surface maintenance occurs regularly (i.e., yearly and as needed) and typically takes 60 days per year to complete.

Right-of-Way and Access Road Repair- This activity includes repair work extending beyond the existing roadbed and berm, and results in surface disturbance. The affected surface area depends on the nature of the needed repairs. ROW and access road repairs typically involve two workers or contractors. In addition, repair or replacement of existing culverts may be needed after heavy storms. This could include clearing and making functional drain inlets to culverts, culvert repair, and/or replacement. Based on historical data, ROW and access road repairs may require less than 0.04 acres of disturbance per year. Dust control during ROW and access road repair would require approximately 158,000 gallons of water per year. Typically, this activity involves a motor grader, water truck, backhoe, and/or front loader. ROW and access road repair is often required after heavy

storms due to erosion. At times, repairs are also needed as a result of damage caused by off-road vehicles. The duration of the repair would vary depending on the type and length of repairs needed.

Erosion Control- Permittee employs many erosion control techniques to preclude pipeline washout, gully development, and sedimentation of local drainages. Standard erosion control measures could include the creation of diversion channels and terraces to reduce erosion and runoff, installation of ditch plugs in ditches to prevent washout, and implementation of other soil stabilization practices (e.g., jute mats, wood mulching, straw mulch, and other best management practices). The erosion control technique chosen depends on the situation and the condition of the site. Permittee may use permanent articulating cement ground mat systems (i.e., erosion control or "Ercon" mats) and stone erosion control techniques when other biomechanical methods cannot be used or when repairs are made to existing stone or Ercon mat structures. Ercon mats are used within streambeds to stabilize the stream bottom and reduce erosion above the pipeline. Permittee will use the minimum area necessary to accomplish an erosion control activity if biomechanical methods cannot be used or if repairs to existing stones, gravel, or rocks are needed. In addition, existing riprap structures could require repair or replacement in areas subject to high flow that may expose pipelines. Permittee will minimize vegetation removal or grading to the extent practical when performing erosion control work. Installation typically begins with preparing the site for the erosion solution. This may involve clearing existing vegetation and minor recontouring in the area of existing erosion. Once prepared, the erosion solution is delivered to the site on a truck and placed in the prepared area. The erosion solution is then installed according to the manufacturer's specifications. Erosion control measures temporarily disturb between 1,100 and 20,000 square feet and permanently disturb between 20 and 200 square feet. Erosion control typically involves a pickup truck for transportation of workers and materials, as well as a backhoe for excavation. Permittee installs erosion control devices at 0 to 3 locations per year.

Water Diversion Channels- Pipeline crossings within water features that have flowing water require the implementation of water diversion techniques to minimize the potential for impacts to water quality and create a dry and safe work area. Because the majority of streams in the Mojave Desert region are ephemeral, work will most likely be conducted when the features are dry, and diversion is not necessary. If surface flow is absent or minimal, an open cut will likely be the preferred method. However, Line 314 crosses the Mojave River at three locations where water flow is possible. In the rare event that work needs to occur in a channel when there is perceptible flow, flume crossings (water in the work area is conveyed through a flume (pipe)) or dam and pump crossings (the water upstream of the work area is temporarily dammed, pumped from the work area, and discharged downstream) will be employed. Upon completion of work on the pipeline segment, the water diversion structure is removed, and the flow of the water feature is restored to its original state. Water diversion techniques temporarily disturb an approximately 10-foot-long and 20-foot-wide work area. This activity includes the use of a motor grader, a backhoe, and a front loader. Water diversion, including restoring flow of the water feature to its original state, typically takes 3 to 5 days to complete.

Telecommunication Site Maintenance- A supervisory control and data acquisition (SCADA) system monitors pipeline functions remotely and transmits pipeline operational information to Permittee's operations offices via Permittee's utility telecommunication system. Maintenance includes checking telecommunication facilities, replacing batteries, conducting minor maintenance, or making adjustments to the facilities or components. A temporary storage area (TSA) could be required for major maintenance or storm damage repairs. The TSA could be located either next to the site within a temporary work area or at a distant location (for helicopter transport of workers and materials). Temporary work areas are generally located within Permittee's ROWs or other disturbed areas. Major maintenance or storm damage repairs typically take one to two days to complete and require two to five workers. This activity includes the use of vehicles to access the site. Only hand tools are required for telecommunication site maintenance. Permittee performs this activity approximately once per month. In the event of major storm damage, reconstruction of a facility or replacement of a component is required as soon as weather permits.

Span Painting/Air-to-Soil Corrosion Protection- The painting of spans involves excavation around the air-to-soil transition in areas where the pipeline exits the soil and spans a terrain feature. The excavation is used to expose the pipeline and generally extends approximately 4 feet into the soil. The pipeline coating is then removed from this area and replaced. The exposed pipeline span is then sandblasted and painted. The pipeline may be enclosed in scaffolding and tenting material to protect the pipeline after sandblasting and during the painting process. Span painting and corrosion protection activities typically require six workers. Span painting and corrosion protection activities may require less than 0.1 acres of temporary disturbance per year. This operation is conducted on an as-needed basis. The air-to-soil transition is then backfilled and restored to approximately pre-activity contours and erosion protection materials are installed. This process requires an excavator, pickup trucks, painting equipment, and scaffolding. This activity typically takes 6 weeks to complete.

Below-Grade Pipe and Coating Inspection- Cathodic protection surveys could reveal an isolated pipeline segment with low pipe-to-soil electrical potentials that require excavation of a portion of the pipe for visual inspection. Pipe inspections typically require two to four workers and temporarily disturb less than 0.57 acres per year. Dust control during pipe inspections require approximately 32,700 gallons of water per year. Excavations required for pipe inspections typically encompass an approximately 20-foot by 40-foot area within an approximately 50-foot by 200-foot work area. Permittee expects that approximately 10 of these inspections would be required annually. This activity typically involves pickup trucks, a flatbed truck/trailer or dump truck with a trailer, a backhoe, a trailer-mounted compressor, barricades, and plastic fencing. This activity typically takes 2 to 10 days to complete.

Internal Pipeline Inspection- Pipelines are inspected above ground by electronically measuring the integrity of the pipeline coating. Using technology such as magnetic flux leakage, Permittee inspects the pipeline with sensors to measure pipe corrosion, cracks, and indentations. During these procedures, the pipeline remains in operation. If problems are indicated, the pipeline is inspected

internally using a pipeline inspection device (i.e., a pipeline inspection gauge, which is often referred to as a "pig") that is inserted into the pipeline at aboveground pig launcher/receiver facilities, which are typically located in fenced yards. The pig travels throughout the length of the pipeline, employing robotically operated cameras and sensors to assess the condition of the pipeline. Inspection of pipelines by this method is known as "pigging" a pipeline or an in-line inspection. Inspection crews typically consist of one to two workers. Excavation, soil stockpiling, staging, and the use of construction vehicles disturb an approximately 50-foot by 50-foot work area for each inspection; however, this activity is typically conducted within the existing, fenced station. Dust control during pigging activities or in-line inspections would require approximately 1,000 gallons of water per year. Access would be via existing access and pipeline patrol roads. Once this data is analyzed, the inspection crew conducts a calibration test (i.e., excavates a hole over or alongside the pipeline to allow the line to be examined and to provide room for workers to perform maintenance on the pipeline). A calibration test is conducted at two or three locations along the pipeline to confirm that the results are accurate. The length of the exposed pipeline depends on the extent of the indicated anomalies. Excavations required for calibration tests typically encompass an approximately 20-foot by 40-foot area within an approximately 50-foot by 800-foot work area. If corrosion cannot be repaired, pipeline segment replacement is necessary. Calibration tests typically require two to four workers and temporarily disturb less than 0.25 acres of pipeline ROW per excavation. Dust control during calibration testing would require approximately 263,000 gallons of water per year. Permittee expects that 5 to 10 of these excavations would be required annually. This activity typically involves small trucks or SUVs on existing access and pipeline patrol roads, as well as excavators. Permittee will conduct an annual internal pipeline inspection. In-line inspections are typically conducted once every 7 years and require 4 weeks of preparation, 24 hours for the inspection, and 2 weeks for demobilization. Calibration tests typically take 5 to 10 days to complete per test. Permittee expects that 5 to 10 of these excavations required for calibration tests would be required annually.

Installation of Pig Launcher/Receiver Facilities- No permanent pig launcher/receiver facilities are currently installed at Lines 311, 313, and 314. These facilities will be installed within or adjacent to existing fenced facilities when possible; however, existing fenced areas may need to be permanently expanded by approximately 0.69 acres to accommodate the new facilities. For each installation, a work area measuring approximately 300 feet by 300 feet is required for soil excavation, soil stockpiling, and the use of construction vehicles. Excavation depths range from 3 to 10 feet. An approximately 50-foot by 50-foot TSA could also be required to store equipment. Pig launcher/receiver installations typically require 12 to 15 workers. Dust control during pig launcher/receiver installation would require approximately 635,700 gallons of water per year. Permittee expects that four to six of these installations will be required. Maintenance and upgrades to these facilities would occur annually and on an as-needed basis. Equipment required for installing pig launcher/receiver facilities includes a flatbed truck/trailer or dump truck with a trailer, a backhoe, excavator, a trailer-mounted compressor, a truck-mounted crane, a side boom, a water truck, welding trucks, crew trucks, barricades, and safety fencing. Pig launcher/receiver installations

typically take 6 to 8 weeks to complete. Over the next 10 years, 12 to 15 new pig launcher/receiver facilities will be installed on Lines 311, 313, and 314.

Valve/Pipeline Excavation and Recoating- Should a below-grade inspection reveal failing pipeline coating, excavation and recoating of the pipeline segment will be necessary. Excavation and recoating usually requires four to five workers. Permittee expects that the temporarily disturbed area will be less than 0.28 acres. Pipeline excavations require approximately 50-foot by 200-foot work areas, and valve excavations require approximately 40-foot by 40-foot work areas. Excavation depths range from 3 to 10 feet. Dust control during valve/pipeline excavation and recoating would require approximately 349,200 gallons of water per year. In addition to pickup trucks, this activity typically involves a flatbed truck/trailer or dump truck with a trailer, a backhoe, an excavator, a trailer-mounted compressor, a portable sand-blaster, a truck-mounted crane, a water truck, barricades, and safety fencing. On average, valve excavation and recoating can be completed in 2 to 4 weeks; however, the time required to complete this activity will depend on the length of the pipeline that needs repair. It is expected that 0 to 25 of these excavations would be required annually.

Installation of Magnesium Anodes- Cathodic protection surveys could reveal an isolated pipeline segment with low pipe-to-soil electrical potentials that will require excavation and installation of magnesium anodes at the same depth as the pipeline to mitigate the potential for corrosion. Installation of magnesium anodes typically requires three workers. Each installation requires one approximately 20-foot by 100-foot work area and could temporarily disturb less than 0.01 acres. The permanent disturbance associated with each installation includes an approximately 5-foot by 5-foot area (less than 0.001 acres). Dust control during magnesium anode installation would require approximately 4,200 gallons of water per year. In addition to pickup trucks with equipment specific to the task, this activity involves a flatbed truck/trailer or dump truck with a trailer, a water truck, and a backhoe. Installation of magnesium anodes typically takes 1 to 3 days. Permittee expects that 0 to 10 installations of magnesium anodes will be necessary each year.

Installation of Deep-Well Anodes/Thermoelectric Generators- Cathodic protection surveys could reveal a pipeline segment with low pipe-to-soil electrical potentials that will require the installation of deep-well anodes to mitigate the potential for corrosion. Deep-well anode beds typically have an approximately 20-year life span and are abandoned in place when no longer in use, pursuant to local environmental health department regulations. Installation of deep-well anode beds involves drilling deep ground wells and installing zinc or magnesium bars, platinum anode rods, or ground mats. Permittee uses this installation method where pipelines are exposed to large amounts of induced alternating current, typically from adjacent high-voltage electric transmission lines or where soil conditions dictate. Deep-well anodes are installed 200 to 600 feet below. If a deep-well anode requires permanent, aboveground equipment to generate electricity, a photovoltaic or natural gas-powered thermoelectric generator (TEG) will be installed, requiring an area surrounded by a 6- to 7-foot-tall fence, measuring approximately 30 feet by 60 feet, and with a permanent footprint of less than 0.01 acres. Based on historical data, the installation of deep-well anodes may require less than

0.32 acres of temporary disturbance per year. If an existing electrical circuit is available nearby, no fencing is required, because the electrical connection is underground. In addition to a three-person drilling crew, installation typically requires four to five workers and temporarily disturbs less than 0.11 acres of pipeline ROW for deep-well anode installation and 0.06 acres for TEG installation. Each anode installation requires one approximately 20-foot by 100-foot work area and permanently disturbs, at minimum, an approximately 5-foot by 5-foot work area. Anode installations requiring the implementation of TEGs permanently disturb less than 0.01 acres. Dust control during the installation of deep-well anodes and TEGs would require approximately 28,400 gallons of water per year. Installation requires a truck-mounted drilling rig, a water truck, and pickup trucks with equipment specific to the task. Installation typically takes 2 to 4 weeks to complete. Permittee expects that zero to six deep-well anodes and zero to five TEGs would be installed annually.

Installation of Flex Anodes- Flex anodes are cathodic protection devices that are installed by trenching next to the pipeline and installing a cathodic lead anode wire over the length of the pipeline that needs cathodic protection. Flex anodes could be installed parallel to the pipeline from several thousand feet to several miles. They are typically buried to a depth of 4 to 8 feet using a narrow blade. The number of workers vary depending on the length of the pipeline needing cathodic protection. The installation of flex anodes typically requires two to four workers. Flex anode installations would be conducted within an approximately 10-foot-wide work area along the length of the pipeline. The excavations required to install each flex anode would be conducted within an approximately 20-foot by 20-foot work area. The area disturbed by this activity varies, but typically less than 0.02 acres would be temporarily disturbed. Dust control during the installation of flex anodes would require approximately 2,700 gallons of water per year. A trencher and trailer, as well as several utility trucks, are required to install flex anodes. This type of maintenance is likely to be needed less than once per year. Each flex anode installation can be conducted in approximately 4 weeks; however, the construction schedule will vary depending on the length of the pipeline needing cathodic protection.

Installation or Replacement of Horizontal Anode Beds- Should existing shallow-depth cathodic protection units prove incapable of maintaining desirable pipe-to-soil electrical potentials over a long pipeline segment, horizontal anodes will be installed. Horizontal anodes parallel the pipeline at 400 to 1,000 feet from the ROW centerline and are installed at approximately the same depth as the pipeline. Typically, horizontal anode installation requires five workers and temporarily disturbs less than 0.32 acres. Horizontal anode bed installations are conducted within an approximately 20-foot by 20-foot work area. Dust control during horizontal anode bed installation would require approximately 800 gallons of water per year. In addition to pickup trucks with equipment specific to the task, this activity involves a welding truck, a flatbed truck/trailer or dump truck with a trailer, a backhoe, a lowboy trailer, a tractor cat-loader, and a water truck. Installations take 5 to 7 days and would be needed less than once per year.

Electronic Test System Station and Cathodic Test Station Installations- ETSS and CTS are components of the cathodic protection system. Facilities are installed 0.25 to 0.5 miles apart along pipelines to determine protection system effectiveness by measuring conductivity and to help crews locate the pipe prior to excavation. The ETSS consist of two wires (i.e., leads) that are welded to the pipe; the leads are exposed at the surface inside an approximately 4-foot-tall, 4-inch-diameter plastic tube or valve box. Installation entails exposing a 3- to 5-foot-long section of pipe, attaching the leads with a small weld, and recovering the pipe. During ETSS installation, the pipeline remains in operation. Most sites would be accessible from existing access roads. Where an ETSS cannot be accessed from an existing road, workers will access it on foot or by use of small trucks. Permittee would repair or install 5 to 50 ETSS per year. Each installation typically requires one worker and temporarily disturbs less than 0.01 acres. At each installation site, soil excavation, soil stockpiling, and the use of construction vehicles will temporarily disturb an additional work area measuring approximately 50 feet by 50 feet. CTS are installed along natural gas transmission pipelines to support pipeline maintenance, specifically cathodic protection of the pipes, which is needed to prevent corrosion. CTS excavations generally measure approximately 10 by 10 feet, and the larger work area for temporary staging of excavated soil and equipment can be approximately 30 feet by 30 feet, which includes the approximately 10-foot by 10-foot excavation area. Each CTS is housed within a 3-inch-diameter orange plastic pole housing and is connected to the pipe using hand tools. CTS excavations are generally backfilled using a backhoe. The CTS remains permanently in place at an above-grade height of approximately 4 feet. To monitor corrosion over time, corrosion coupons will potentially be installed during CTS installation activities. CTS installations typically require up to five construction workers. Dust control during CTS installations would require approximately 800 gallons of water per year. Each ETSS installation typically requires a pickup truck. Equipment and vehicle support for a CTS installation includes one truck with a trailer (to transport a backhoe), one backhoe, and pickup trucks. Each ETSS installation typically requires 5 days to complete. CTS installations typically take 1 to 2 days to complete and would be conducted approximately 100 times per year.

Valve Replacement/Automation- Valves regulate the flow of gas through the pipeline and enable crews to isolate portions of the pipeline, but they occasionally malfunction or wear out. Permittee replaces valves to allow for the passage of inspection devices (e.g., pigs for pigging or in-line inspections). Permittee also replaces faulty valves for operational and public safety reasons. As part of Permittee's ongoing efforts to improve and ensure safety of the existing pipeline system, Permittee would automate approximately 14 existing valves within the next 8 years, and upgrade approximately 40 other valves where automation may not be possible or required. Enhancing or replacing approximately six of the valves per year could include an expansion of existing facilities to accommodate an aboveground valve, several small cabinets for a SCADA system, and an electric service extension. The valves would generally be 7 to 20 miles apart. Prior to replacing or installing valves, a portion of the gas line would need to be "blown down" (the process by which gas is evacuated to the atmosphere from the affected section of pipe through a blowdown stack). To minimize the amount of gas discharged into the atmosphere, a technique called "cross-compression" is used when feasible. Cross-compression moves gas from the line being worked on to an adjacent

pipeline, thereby minimizing the amount of discharged gas. Cross-compression activities typically require the use of an area measuring approximately 1 acre. Excavation activities are not typically necessary to conduct cross-compression operations. Valve replacement will occur within the existing station facility corridor. If Permittee replaces a small segment of the pipeline during valve placement or automation, then that pipeline segment needs to be hydrostatically tested. Soil excavation, soil stockpiling, and the use of construction vehicles require a temporary work area measuring approximately 150 feet by 150 feet. A TSA measuring approximately 50 feet by 50 feet could also be required to store equipment. An expansion of existing fenced facilities could be necessary to accommodate the automation/replacement, which would result in approximately 0.06 acres of permanent disturbance. The number of workers would vary depending on the number of valves to be replaced or installed. Each valve replacement/automation typically requires 6 to 13 workers. Trailer-mounted compressors, welding trucks, pickup trucks, and aboveground hoses and pipes are required for cross-compression. Equipment required for replacing or installing valves typically includes a flatbed truck/trailer or dump truck with a trailer, a backhoe, a water truck, an excavator, a vacuum excavator, welding trucks, a trailer-mounted compressor, a truck-mounted crane, a side boom, a front-end loader, crew trucks, barricades, and safety fencing. Each valve replacement/automation typically takes 4 to 5 weeks to complete; however, the construction schedule would vary depending on the number of valves to be replaced or installed. Permittee could replace or automate valves at any time, depending on the weather and operational restrictions related to the need to temporarily shut down the pipeline. Permittee expects that 0 to 10 of these replacements/automations would be required annually.

Hydrostatic Testing- Permittee will hydrostatically test all pipeline segments for which a documented hydrostatic test does not exist. Hydrostatic testing assesses the pipeline for strength and leaks. Permittee typically uses water as the test medium during hydrostatic testing, but compressed air or compressed nitrogen gas can sometimes be used for testing short segments or small-diameter pipes (i.e., less than 6 inches in diameter). Testing pressure and duration are determined by the pipe size, the pipe specifications, the thickness of the pipe wall, and the elevation. Prefabricated test heads are installed on the section of line to be tested. The section is then filled with water from an available source (e.g., a fire hydrant) or transported to the site by trucks or temporary pipes. Once the pipeline is filled, a hydrostatic pump is used to increase the internal pressure to the designed test pressure, which is typically 1.5 times the system's maximum allowable operating pressure. The amount of water that is used in a hydrostatic test depends on the diameter and length of the pipe being tested.

Upon successful completion of the hydrostatic test, pressure is reduced, and the water is expelled from the pipeline using air compressors and cylindrical foam pigs. Permittee only discharges clean water where possible, and the water is not released under pressure. Permittee expects that it will be able to discharge water to steel liquid storage tanks and/or sewers. Most, if not all, of the wastewater resulting from hydrostatic testing will be used for dust control. If any of the wastewater cannot be used for dust control due to contamination, it will be sent to Kettleman Hills Hazardous Waste Facility for disposal. Hydrostatic testing would require a minimum of approximately 551,450 gallons and a

maximum of 1.5 million gallons of water per year. Dust control during hydrostatic testing would require approximately 18,300 gallons of water per year. Soil excavation, soil stockpiling, and the use of construction equipment at each end of the pipeline would require a temporary work area measuring approximately 20 feet by 50 feet to accommodate work activities. An additional TSA will also be required at each end of the pipeline for material and equipment storage and staging. If a liquid storage tank is used, an approximately 100-foot by 100-foot TSA would be required to store each on-site tank. Hydrostatic tests are limited to approximately 4-mile-long pipeline segments that require 10 to 20 acres of disturbance per mile. However, the disturbance required for hydrostatic testing is generally less than 10 acres. Based on existing O&M activities, a typical hydrostatic test requires 8 to 10 workers and temporarily disturbs 0.23 to 5.07 acres. Although this disturbance estimate is representative of a typical hydrostatic test, the frequency and length of hydrostatic testing would vary annually. Equipment required for hydrostatic testing includes air compressors, a crane, a flatbed truck/trailer, a backhoe, water trucks, an excavator, welding trucks, a pickup truck, a side boom, a track hoe, a generator, a grader, a trencher, crew trucks, a water pump, a bulldozer, and aboveground storage tanks. Permittee expects that zero to six hydrostatic tests would be conducted annually over the next 5 years. Based on existing O&M activities, each test takes 6 to 8 weeks to complete. The frequency and length of hydrostatic testing would vary annually.

Pipeline Segment Replacement- Pipeline segments are replaced when inspections and assessments indicate the pipeline is in need of replacement due to age or corrosion. Additionally, public safety requirements necessitate replacing pipeline segments for various reasons, including the following: to accommodate development alongside the pipeline that results in a change of Class Location (used by the US Department of Transportation to define levels of population density along a pipeline based on the number of buildings intended for human occupancy within a fixed distance of the pipeline); to increase the depth of the pipeline below the ground surface; to repair pipeline damage due to a third-party construction “dig-in”; and to repair pipeline damage due to acts of nature. In the case of Class Location changes, Permittee could potentially need to increase the cover depth or replace the pipeline or its segments with stronger pipe to comply with U.S. Department of Transportation and California Public Utilities Commission-mandated safety regulations. As the existing pipeline is removed from service for interconnection to the new line, it would be blown down or gas would be transferred into another line using cross-compression. Any gas condensation will be captured and removed from the existing pipeline and disposed of in compliance with current regulatory requirements. The existing pipeline would either be removed or abandoned in place by filling it with slurry before capping the pipeline. Typically, the crew cuts and caps the pipeline every 1,000 feet, depending on the location. Slurry could be placed into the abandoned pipeline segments if the pipeline needs to be stabilized. In the event that a pipeline is abandoned in place, Permittee will typically place the new section of pipe as close to the abandoned pipeline as possible and modify any existing easements by expanding their widths by up to 50 feet or acquiring new easement rights to accommodate the new section of pipeline.

The length of pipe affected will vary and will depend on the reason for replacement. The minimum length of pipe that will be replaced is approximately 40 feet (i.e., one joint or segment of pipe), although up to 2 miles could be replaced during each replacement effort. Trenching and soil excavation, soil stockpiling, staging, and construction vehicles typically disturb an approximately 100-foot-wide work area, which includes the excavation area. The length of the work area depends on the length of the segment being replaced. A hydrostatic test would also need to be performed on the new pipeline segment. A pipeline segment replacement could occur at any time of year, depending on operational restrictions related to the need to temporarily shut down the pipeline. The replacement of a pipeline segment usually requires 11 to 24 workers. The total area temporarily disturbed would be dependent on the length of the pipeline needing replacement, but typically 0.46 to 6.89 acres are temporarily disturbed as a result of this activity. Although this disturbance estimate is representative of a typical pipeline segment replacement activity, the frequency and length of pipeline segment replacement activities would vary annually. Depending on the length of the pipeline segment being repaired, dust control would require a minimum of 44,900 gallons of water per year and a maximum of 1.5 million gallons of water per year. In addition to pickup trucks, this activity typically involves a flatbed truck/trailer or dump truck with a trailer, a backhoe, an excavator, a water truck, welding trucks, a trailer-mounted compressor, a truck-mounted crane, a side boom, barricades, and plastic fencing. The replacement of a pipeline segment typically takes 1 to 6 months to complete; however, the time required to complete this activity would be dependent on the length of the pipeline needing replacement.

High-Pressure Regulator Deactivation- High-pressure regulators (HPRs) are valves that reduce the gas pressure in pipelines from transmission pressures to distribution and/or customer feed pressures. HPRs are generally located along gas transmission pipelines in locations where gas service is being supplied to customers. HPR deactivation involves the excavation of an existing HPR and the subsequent removal or replacement of the HPR or its components. HPR deactivation, removal, or repair usually requires four to five workers and less than 0.01 acres of temporary disturbance. Equipment varies based on the nature of the activity and may involve pickup trucks, a flatbed truck/trailer or dump truck with a trailer, a backhoe, a trailer-mounted compressor, a portable sand-blaster, a water truck, barricades, and safety fencing. The typical time required to complete HPR deactivation activities is approximately 1 week. Permittee expects that 0 to 10 HPR deactivation, removal, and/or replacement activities would be required annually.

Emergency Activities- Emergency work is defined as a project or activity which includes but is not limited to emergency repairs to facilities necessary to maintain service essential to the public health, safety or welfare. Emergency repairs include those that require a reasonable amount of planning where the delay of a project or activity results in significant safety or environmental effects. Furthermore, emergency projects include specific actions necessary to prevent or mitigate an emergency. The activities conducted for emergency work are the same as the activities described above, the amount and extent are the same, with the difference being the timing and urgency of completing the work. Emergency work typically requires immediate repairs to affected facilities as

part of a broader Permittee response to the emergency. Permittee's immediate response to an emergency also includes preliminary site assessments to understand the extent of the potential problem and tailor specific actions to limit additional potential threats and minimize potential adverse effects to sensitive resources that may be caused by the response effort overall.

Emergency Repairs- Emergency repairs could be necessary in the following scenarios: to address pipeline leaks or breaks; to prevent leaks from occurring in the near future; to fix access roads severely damaged by storms or earthquakes; for any other condition that jeopardizes system reliability, property, human health, or the environment; the crew size varies according to the size, urgency, and complexity of the job. Hand tools, crew trucks, water trucks, and heavy equipment are typically required. Additional equipment (e.g., dewatering equipment, vacuum trucks, fire-suppression gear, and large earthmoving equipment) could be required for certain ongoing activities. Emergency response activities could occur throughout the year. The time required for these activities varies with each situation.

Fire Response- Fires could threaten aboveground structures, including pipelines and facilities. They could also damage the protective coating of the pipeline and cause substantial damage to facilities, resulting in the loss of facility use or possible rupture of the gas pipeline. When these situations arise, Permittee crews could be required to create firebreaks or fire roads in an effort to stop the fire or to minimize the resulting damage. Actual fire-related activities and the size of the crew will be dependent on the local fire department allowing the work to be performed when conditions are safe. Permittee's Utility Standard TD-1464S implements fire safety measures and protocols for all worksites to address wildfire risk. This Utility Standard establishes that local fire agencies will conduct the necessary response in the event of a fire. Equipment used during this activity will be dependent on the fire; however, the activity typically includes the use of Permittee owned fire trucks. These activities would be conducted on an as-needed basis and could be performed at the request of local fire departments.

Soil Stabilization- Saturation of soils and/or erosion could result in unstable slopes, landslides, and other conditions that may threaten pipelines and facilities. When these emergency situations arise, crews are required to stabilize the surrounding areas immediately. An immediate response is particularly important when pipeline pressure needs to be reduced or shut off. During these response actions, the slopes are often stabilized temporarily until long-term solutions can be planned and implemented. In these situations, the crew size is dependent on the urgency and complexity of each situation. Typically, large earthmoving equipment is necessary for this activity; however, the amount of equipment is dependent on the urgency and complexity of each situation. The schedule for this activity is dependent on the complexity of the situation.

Descriptions of the current methods used to repair, maintain, and operate the gas pipelines and related facilities within the Project Location are described below.

Access- Permittee accesses the pipeline ROWs and related facilities using existing public and private roads and Permittee-maintained pipeline patrol roads. Permittee-maintained pipeline patrol roads are approximately 12 feet wide. No new permanent roads will be constructed as part of various O&M activities. However, road surface maintenance and access road repair will continue to occur as part of ongoing O&M activities to keep roads in a passable and safe condition. Temporary access roads may be constructed to connect O&M work areas to existing pipeline patrol roads or provide access for the public around Permittee work areas that may affect public access. These temporary roads will be restored after construction and the impacts associated with the temporary access roads are accounted for in the work activity disturbance.

Temporary Staging Areas- A TSA is required for some activities, such as pipeline replacement. Permittee will determine the location of the proposed TSAs to avoid and minimize impacts on sensitive resources. If sensitive resources are present, a biologist will demarcate the sensitive resources with flagging or temporary fencing before construction to ensure that workers and equipment avoid the sensitive resource. Permittee typically uses larger trucks to transport pipes and equipment, such as tracked vehicles (i.e., vehicles that run on continuous tracks instead of wheels). Crews park, store, and stage construction equipment in these designated areas. As part of Permittee's standard practices, TSAs would be restored to approximate pre-activity grade at the completion of the activity.

Clearing- Permittee clears only the amount of vegetation that is required to complete the maintenance activity safely at work locations and, where possible, generally uses a "drive and crush" approach within a work area to conduct O&M activities. Permittee does not perform clearing activities along the pipeline ROW unless work is being performed on the pipeline. When drive and crush over vegetation is not possible, brush clearing is conducted to remove vegetation, but the root system is left in place. After staking the work area, maintenance personnel will remove trees and brush (i.e., clear and grub obstacles, such as rocks or tree stumps, by mechanical means) within the construction ROW to the extent necessary to allow safe and efficient use of construction equipment. Permittee also clears vegetation as a form of wildfire vegetation management. Clearing for wildfire vegetation management occurs once per year and includes clearing approximately 5 feet of vegetation around aboveground facilities. To establish adequate distance between cleared vegetation and O&M activities, Permittee would develop windrows or stockpile brush. At the end of construction, the cleared vegetation would be redistributed over the disturbed work area.

Grading- Permittee limits grading to the area necessary to ensure the safe movement of construction equipment in the ROW and designs its activities that involve grading to minimize impacts on natural drainage and slope stability. Permittee must sometimes temporarily install prefabricated bridges or culverts in the ROW or in access roads to ensure safe access and to reduce environmental impacts in accordance with federal and state regulations. If a bridge is needed for only a short duration, then a portable bridge is assembled on site and secured with a crane to span the crossing. If a longer-term crossing is required, a culvert may be installed. During the grading phase, Permittee segregates

topsoil from subsoil and windrows the topsoil within the designated work site. During periods of rain, Permittee will cover soil piles. The soil is typically covered with plastic sheeting and secured with gravel bags or other weights no more than 10 feet apart to minimize the potential for erosion. Surface rocks, where present and useful for reclamation, are set aside with the topsoil windrow. If not reclaimed, the rocks are taken to a landfill. Permittee makes every attempt to cover the pipeline by placing the subsoil over the pipe first, and then spreading the preserved topsoil evenly over the graded area.

Trenching and Excavating- The process of excavating the pipeline trench varies according to location, soil type, and terrain. Permittee conducts trenching and excavating in accordance with California Occupational Safety and Health Administration requirements for employee and public safety. Self-propelled trenching machines or backhoes are used for trench excavation on moderate terrain. Prior to excavating and trenching, Permittee may conduct exploratory excavations (i.e., potholing) to verify the locations of existing underground facilities. Trenches that cross waterways are excavated using a backhoe, dragline, or clamshell. Permittee schedules trenching when the streams are dry and when no significant rain is forecast for the area 48 hours prior to excavation. If water is present, a tunneling method, such as jack and bore or horizontal directional drilling (HDD), is used. If workers encounter rock or rocky formations, tractor-mounted mechanical rippers are used to expedite excavation. In areas where mechanical rippers are not practical or sufficient, rock trenching equipment may be employed. The width and depth of the trench depends on the diameter of the pipe, the soil type, the terrain, and minimum depth requirements. Typically, the trench is 12 inches wider than the diameter of the pipe. Trench depths are generally 3 to 10 feet deep but vary depending on the depth of the pipeline and on substrate conditions. The trench must be deep enough to achieve adequate soil cover over the pipe. The minimum amounts/depths of soil applied (i.e., soil cover) over the pipeline for O&M activities measure 2.5 to 3 feet in uncultivated areas, 3 to 6 feet in cultivated areas, and 1.5 to 2 feet in rocky areas. In areas where it is necessary to trench through topsoil and subsoil, a two-pass trenching process is used. The first pass removes topsoil, and the second pass removes subsoil. Removed soils (i.e., “spoil”) from each excavation are stored in separate rows. This technique allows proper soil-profile restoration after backfilling. Windrows contain gaps at appropriate locations to prevent stormwater runoff from ponding. Bank stabilization methods depend on site-specific conditions.

Permittee field crews will implement other measures as needed to provide erosion control and to prevent construction runoff from entering the streams. In cultivated and improved areas, and areas with thin layers of topsoil, it is sometimes necessary to remove and stockpile topsoil within the construction ROW until the trench is backfilled. This effort could last up to 3 weeks. The stockpiled topsoil is then distributed evenly across the disturbed portion of the ROW during cleanup. Permittee crews will clear the trench of loose rocks and, when necessary, provide imported material or other suitable bedding material as a cushion for the pipe. Backhoes are used to clean the trench after ripping, or in extremely rare circumstances, blasting is implemented after other alternatives

(e.g., rerouting) are exhausted. Permittee will minimize the length of exposed trench to the extent possible and provide access across the trench at convenient intervals for public safety.

Crossings of Waterways, Railroads, and Major Roadways- Boring and open trenching are typical construction methods for crossings. Permittee typically uses boring when crossing active waterways, railroads, and major roadways. The three most common boring methods are jack and bore, HDD (horizontal boring or slick boring), and microtunneling. The chosen method is based on the crossing type, soil type, terrain, and type of facility being installed. Open trenching is a fourth option, but Permittee will avoid this unless a waterway is very small or seasonal. The four methods are:

Jack and Bore- Permittee often uses this boring method (also referred to as "dry bore") to cross all federal and state highways and railroads, as well as areas where open cuts are prohibited. The jack-and-bore technique involves excavating pits on both sides of a water, railroad, or road feature by using a boring machine to drill a horizontal hole under the crossing and inserting steel casing pipe sections under the feature being crossed. The entry pit typically ranges from 10 to 20 feet in width, 30 to 45 feet in length, and 10 to 20 feet in depth. The dimensions of the receiving pit on the opposite side of the crossing are significantly smaller. The actual boring site dimensions could be smaller and will be determined on a case-by-case basis depending on factors such as pipe diameter, crossing length, and the type of facility being crossed. Crews excavate each side of the crossing to accommodate a boring auger. The displaced fill is either stockpiled or removed, depending on whether the area will be permanently affected or if Permittee will revegetate it following a temporary disturbance. Stockpiling is done within the ROW. The bore could be for a pipe ranging from 2 to 24 inches in diameter. Sacrificial pipe that is the same size as the pipe being installed is typically used as a sleeve for the boring auger. This sleeve is pushed under the crossing as the auger drills through the soil. The permanent gas pipe is then pushed through and attached to the sacrificial pipe. The pipe is cut in short lengths to accommodate the limited excavation area, then it is welded to the inserted piece ahead of it and jacked into place. The average size of the excavation or trenching is approximately 10 feet wide by 40 feet long. Permittee will use the same method if casing pipe is necessary. The casing pipe is sized larger than the carrier pipe, and it is installed as a sleeve for the boring auger. The gas pipe is then installed through the casing. Cased crossings have vent pipes that extend above ground, have cathodic protection, and are appropriately marked. Unlike HDD, the jack-and-bore technique does not require the use of drilling lubricant. As a result, potential impacts associated with this boring technique are limited to erosion and sedimentation associated with the pits on the sides of the crossing.

Horizontal Directional Drilling- Longer distances, typically measuring more than 120 feet, can be drilled using this method rather than the jack-and-bore method. HDD, which Permittee most often uses to cross large waterways, is the preferred method for conduit installation to minimize surface disturbance. The only excavation required is a "mud pit," which measures approximately 6 feet wide by 6 feet long by 3 feet deep. A hydrostatic pre-test of the pipe section is performed to ensure its integrity prior to pulling. The tunnel is drilled from surface to surface, and a registered engineer

determines the pipe's maximum angle of deflection. Workers set up a drilling machine on one side of the crossing at the appropriate location. The auger drills at a predetermined angle from the surface elevation toward the crossing; the angle is prescribed to attain the correct depth below the feature being crossed. During drilling, a mud solution—typically bentonite—is pumped into the tunnel along with other additives to maintain the tunnel's shape and integrity. Crews use non-toxic additives when drilling under streams. The mud solution reduces friction during installation of the pipeline. The drilling machine pulls the pipeline through the tunnel. The mud solution is pumped into a truck as the pipeline displaces it. Once the pipeline is installed, both ends are excavated and cut off at the appropriate depth to match the rest of the pipeline. Permittee will contain the soil removed during drilling within the mud solution and test it for contaminants prior to hauling the solution off site and disposing of it at landfills that accept such material.

Contingency Planning for Frac-Outs- Drilling fluid fractures—commonly called "frac-outs"—occur when the pressure of the drilling lubricant escalates, fractures the soil, and allows the drilling fluids to escape the bore. Drilling lubricant generally consists of a variable mixture of water and bentonite that depends on existing soil conditions. Permittee crews will design and direct the drilling operation to minimize the risk of spills of all types. Permittee will prepare a site-specific frac-out plan that outlines standard precautionary measures to control and clean up the drilling lubricant.

Horizontal Boring or Slick Boring- Horizontal boring or slick boring is a technique that uses the traditional auger method but installs the pipe directly rather than within a casing. A bore pit is excavated on both sides of the water features, railroads, and roads. The entry pit typically ranges from 10 to 20 feet in width, 30 to 45 feet in length, and 10 to 20 feet in depth. The dimensions of the receiving pit on the opposite side of the crossing are significantly smaller. The actual boring site dimensions could be smaller and will be determined on a case-by-case basis depending on factors such as pipe diameter, crossing length, and the type of facility being crossed. Once the pits have been completed, the entry and exit points are surveyed, and the boring machine and pipe are placed into the bore pit. The section of the carrier pipe is used to support the augers and to create the hole for the crossing. Once the hole is created, the augers are removed and the permanent carrier pipe is pushed in while pushing out the sacrificial carrier (i.e., the pipe used with the augers). The pipe is then aligned and leveled according to the survey points, and boring continues until the pipe breaks through into the receiving pit.

Microtunneling- This is Permittee's preferred method for stream crossings. Permittee also often uses microtunneling in extremely wet conditions where it is necessary to control the amount of soil being removed as the boring head progresses. Each side of the crossing is excavated to accommodate the boring equipment (i.e., a jetting head and suction equipment). Microtunnel excavation can be a trench as small as 10 feet by 40 feet or as large as 50 feet by 50 feet, depending on the required depth. A jetting head containing multiple high-pressure water jets is attached to the pipe being installed. Crews use plumbed or tanked water, not water from adjacent streams or rivers. Water forced through the jets dislodges the soil as the head is pushed, and the pipe is installed behind it.

Suction equipment controls the amount of soil being removed to accommodate the forward progress of the jetting head and pipeline. Only the soil displaced by the pipeline is removed. Permittee crews will capture water used during this process in Baker Tanks and dispose of it according to federal and state water quality regulations.

Open-Trench Waterway Crossings- Open trenching is a technique used to cross water bodies that involves excavating directly within the bed and bank of a water feature to create a trench for installing new pipe or to expose existing pipelines for inspection, repair, replacement, or relocation. Permittee rarely uses an open-trench waterway crossing and does so only when a waterway is very small or seasonal. If the Permittee uses the open-trench technique for river or stream crossings, a trench is opened in the bed using backhoes, backhoes on barges, clamshells, or draglines, depending on the flow characteristics. Flow is maintained at water crossings during construction using bypass piping and temporary cofferdams. At large rivers, spoil removed from the trench is stockpiled out of the water within designated work sites, but not where it could re-enter surface waters. The pipeline is placed at least 6 feet below scour depth. The typical trench is approximately 6 feet deep and 3 to 4 feet wide (i.e., 4 feet wide where shoring is required). Side walls are installed to keep the trench open during construction. A plug of unexcavated soil is left at each bank of the stream or river crossing to preserve the integrity of the bank. Permittee crews will not remove these plugs until necessary for installation of the pipe. The entire length of pipe for the crossing is assembled as a unit, then it is tested and placed in the trench. After installation, crews will backfill the trench and the bank, stabilize the soil through compaction, and restore the area to approximate pre-construction conditions. Permittee's bank stabilization methods depend on site-specific conditions, but work materials and methods are consistent and in accordance with federal and state water quality regulations. For safe construction, Permittee will conduct hydrologic evaluations for any major planned crossings during the appropriate time of year.

Geotechnical Investigations- The purpose of a geotechnical investigation is to provide soil and rock information for foundation design and recommendations for civil engineering design. The types of O&M activities that may require geotechnical investigation include, but are not limited to, investigations of pipeline fault crossings, foundations, and footings for pipeline supports and thrust blocks. Geotechnical investigations could occur within a jurisdictional water feature to facilitate the design of a pipeline installation under the water feature. Soil samples collected from borings for geotechnical investigations are removed and analyzed for chemical and physical properties of the soils and rock. After the boring is completed, the bore hole is backfilled. The soil is returned to the boring site and the ground surface is restored to pre-construction conditions. The total area required to complete geotechnical investigations is typically approximately 15 feet wide by 40 feet long.

Crossing Types- Conventional construction methods are often modified to accommodate the specific constraints associated with the following types of crossings:

River, Stream, and Backwater Crossings- River crossing methods vary according to specific river characteristics, such as width, depth, flow, and riverbed geology. Pipelines crossing major streams and rivers are coated with concrete prior to installation to provide negative buoyancy and protection from erosion. Permittee will install temporary low-water vehicle crossings for construction traffic only if an existing crossing, such as a bridge, is not available in the vicinity. Temporary vehicle crossings consist of culvert bridges, Flexifloats, portable bridges, fords, timber bridges, geotextile fabric, mats, pallets, or gravel. These crossings prevent direct contact between surface waters and vehicles and construction equipment, which protects surface water quality during O&M activities. Crossings are removed at the completion of O&M activities.

Fault Crossings- Where geologic studies suggest a high potential for ground rupture, Permittee will design the fault crossing to avoid overstressing the pipe in the event of differential movement. Designs of fault crossings vary, depending on the type of fault and the likelihood, amount, and potential consequences of expected fault displacement. To address the potential for fault displacement, the pipeline trench is widened and deepened to accommodate the anticipated fault displacements. The pipeline in the fault zone is completely suspended in granular bedding material to minimize the resistance of the trench backfill and avoid displacement of the pipe. This method allows the pipe to remain fixed relative to the movement of the trench as fault displacement takes place.

Road, Railroad, and Utility Crossings- Permittee uses the open-trench method when crossing roads with light traffic and where local authorities or owners of private roads permit this crossing method. As is currently done for existing O&M activities, Permittee provides a temporary road detour to the shoulder of the road or a construction bridge consisting of plating for trenched thoroughfares. Boring is generally the method used to cross under underground utilities. Jack and bore is the typical boring method used at railroad crossings.

Aqueduct and Canal Crossings- Site-specific circumstances determine the construction method Permittee uses for crossing aqueducts and canals. In most cases, boring is appropriate. Where required or necessary, crews construct an aerial suspension system for the pipeline.

Culverts- Culvert installation may become necessary during construction for water crossings when bridge installation is not feasible and to avoid disturbance to water features. Culverts are installed by excavating a trench beneath the road surface and placing the culvert at the level of the natural streambed. Backfill material is then tamped down at regular intervals.

Pipe Placement- Large trucks transport lengths of pipe, valves, and fittings to the ROW or work area, and Permittee crews unload the materials. In the field, crews typically assemble sections of pipe requiring angle joints using prefabricated elbow sections so that the pipe conforms to the contours of the terrain. The pipe joints are welded, X-rayed, inspected, and field-coated to prevent corrosion. The material used for field coating depends on the location of the pipe. Work crews use large trucks or track-mounted equipment brought to the activity site by truck to lower the pipeline into the trench.

Typically, the old pipe is filled with slurry and abandoned in place or cut and capped. The trench is backfilled with the excavated material. If the excavated material has too much rock to be placed around the pipe, rock-free material is imported and placed around and over the pipe to a depth of approximately 1 foot. Surplus material is used to form an earthen crown over the trench and allow for settling of the backfill. All excavations and trenches are compacted to be in adherence with the specific requirements at each location. The industry standard for compaction in ROWs is a minimum of 85%.

Pipeline Marking- Permittee crews will install identifying markers over the centerline of the pipeline. These markers show the general location and direction of the pipeline, identify the owner of the pipeline, and convey emergency information in accordance with applicable regulations. Additional markers (i.e., fence-post-like structures with attached signs) are placed on streambanks—not in waterways—and on roads, fences, public access crossings, and edges of agricultural fields. The markers are installed in alignment with the active pipeline. Permittee may also install aerial markers to provide information and guidance to aerial patrol pilots. If needed, the aerial markers will be attached to the top of paddle markers. No lighting associated directly with the markers, but reflective markers may be placed in some BLM-managed areas for safety.

Cleanup and Restoration- The final phase of pipeline installation involves cleanup and restoration of the ROW to achieve compatibility with pre-existing vegetation conditions, in accordance with standard procedures approved by federal and state regulatory authorities. Permittee will remove construction material and recontour disturbed areas to their pre-activity grade. Depending on the nature of the site and the type of installation that takes place, several tasks could be involved in the cleanup and restoration. For example, placement of a pipeline or other infrastructure in a trench results in surplus soil that cannot be returned to the trench. The surplus soil is normally distributed evenly over the disturbed section of the ROW. If a property owner objects to this approach, the surplus soil is deposited at an approved local dumping site. Restoration of the ROW surface involves smoothing it with motor graders or disc harrows. Restoration may also require stabilizing slopes by recontouring, creating slope breaks or diversion ditches, or using dirt, sandbags, or other materials to stabilize the soil and direct runoff away from disturbed areas. On cultivated or improved lands, measures are taken to remove rocks and leave the ground surface in a condition that is satisfactory to landowners.

V. Covered Species Subject to Take Authorization Provided by this ITP:
This ITP covers the following species:

Name	CESA Status[3]
1. Desert tortoise (*Gopherus agassizii*)	Threatened/Candidate[4]

[3] Under CESA, a species may be on the list of endangered species, the list of threatened species, or the list of candidate species.
[4] Desert tortoise is listed as a threatened species pursuant to CESA (See Cal. Code Regs. tit. 14 § 670.5,

2. Mohave ground squirrel (*Xerospermophilus mohavensis*) — Threatened[5]

These species and only these species are the "Covered Species" for the purposes of this ITP.

VI. Impacts of the Taking on Covered Species:

Project activities and their resulting impacts are expected to result in the incidental take of individuals of the Covered Species. The activities described above expected to result in incidental take of individuals of the Covered Species include access and routine O&M activities along the gas pipelines system associated with pipeline patrols, pipeline marker maintenance, valve inspection and lubrication, integrity management, telecommunication site inspections, road surface maintenance, ROW and access road repair, erosion control, water diversion channels, telecommunication site maintenance, span painting/air-to-soil corrosion protection, below-grade pipe and coating inspection, internal pipeline inspection, installation of pig launcher/receiver facilities, valve/pipeline excavation and recoating, installation of magnesium anodes, installation of deep-well anodes/thermoelectric generators, installation of flex anodes, installation or replacement of horizontal anode beds, ETSS and CTS installations, valve replacement/automation, hydrostatic testing, pipeline segment replacement, high-pressure regulator deactivation, and emergency activities (Covered Activities).

Incidental take of individuals of the Covered Species in the form of mortality ("kill") may occur as a result of Covered Activities such as: vehicle and equipment strikes, crushing or suffocation through entombment within burrows, fatal exhaustion due to fence pacing, and stress induced death from handling and relocation out of harm's way. Incidental take of individuals of the Covered Species may also occur from the Covered Activities in the form of pursue, catch, capture, or attempt to do so of the Covered Species from entrapment in holes or trenches, entanglement in on-site materials, hand excavation of burrows, corralling into a confined areas with erection of exclusionary fencing, live trapping, handling and relocation out of harm's way, and transporting injured Covered Species when required by this ITP. The areas where authorized take of the Covered Species is expected to occur include: the ROWs for Line 300 A, Line 300 B, Line 311 and 372, Line 313, Line 314, DMFs, customer lines, and associated lines branching off Lines 300 A, 300 B, and 311, and areas up to 0.25 miles beyond the ROW corridors where Covered Activities are occurring where needed, and each line's related equipment and facilities including compressor stations, valve lots, access and patrol roads, cathodic protection systems, and telecommunication facilities (collectively, the Project Area).

The Project is expected to cause the permanent loss of 3 acres of habitat for the Covered Species, and temporary loss of 40 acres of habitat for the Covered Species on average per year, with a maximum

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subd. (b)(4)(A)). In March 2020, the Fish and Game Commission received a petition to list desert tortoise as an endangered species, and on October 14, 2020, the Commission determined that listing as an endangered species may be warranted and voted to make desert tortoise a candidate for listing as an endangered species. At the time of permit issuance, desert tortoise is thus both a threatened species and a candidate species for listing as endangered. See 2020 Cal. Reg. Notice Register, No. 44-Z, pp. 1445 (October 30, 2020).

[5]See Cal. Code Regs. Tit. 14, § 670.5, subd. (b)(6)(A)

annual impact of 150 acres. Up to 90 acres of permanent impact and 1,200 acres of temporary impact are covered under the entire term of this ITP. The expected annual impact is 43 acres, all of which will impact desert tortoise habitat and 16 acres of which will impact Mohave ground squirrel habitat. Impacts of the authorized taking also include adverse impacts to the Covered Species related to temporal losses, increased habitat fragmentation and edge effects, and the Project's incremental contribution to cumulative impacts (indirect impacts). These impacts include: stress resulting from noise and vibrations from excavations, trenching, drilling, and earth movement, stress from capture and relocation, long-term effects due to increased pollution, displacement from preferred habitat, loss of burrows leading to exposure to lethal temperature extremes, increased vulnerability to predation due to displacement from habitat loss or modification and human presence attracting opportunistic predators, loss of native forage through vegetation removal and colonization of non-native species, increased potential for wildfires due to increase of non-native species cover, transfer of disease due to capture and handling, increased competition for food and space, disturbance to burrows, and loss of habitat due to removal and damage.

VII. Incidental Take Authorization of Covered Species:

This ITP authorizes incidental take of the Covered Species and only the Covered Species. With respect to incidental take of the Covered Species, CDFW authorizes the Permittee, its employees, contractors, and agents to take Covered Species incidentally in carrying out the Covered Activities, subject to the limitations described in this section and the Conditions of Approval identified below. This ITP does not authorize take of Covered Species from activities outside the scope of the Covered Activities, take of Covered Species outside of the Project Area, take of Covered Species resulting from violation of this ITP, or intentional take of Covered Species except for capture and relocation of Covered Species as authorized by this ITP.

VIII. Conditions of Approval:

Unless specified otherwise, the following measures apply to all Covered Activities within the Project Area, including areas used for vehicular, aircraft (e.g. helicopter) ingress and egress, staging and parking, and noise and vibration generating activities that may/will cause take. CDFW's issuance of this ITP and Permittee's authorization to take the Covered Species are subject to Permittee's compliance with and implementation of the following Conditions of Approval:

1. **Legal Compliance:** Permittee shall comply with all applicable federal, state, and local laws in existence on the effective date of this ITP or adopted thereafter.

2. **CEQA Compliance:** Permittee shall implement and adhere to the mitigation measures related to the Covered Species in the Biological Resources section of the Initial Study/Environmental Impact Report (SCH No.: 2021030571) certified by CDFW on January 17, 2023 as lead agency for the Project pursuant to the California Environmental Quality Act (CEQA) (Pub. Resources Code, § 21000 et seq.).

3. **ESA Compliance:** Permittee shall implement and adhere to the terms and conditions related to the Covered Species in the Maintenance Activities on the PG&E Gas pipeline System in the California Desert [6840, CA-063.50] [1-8-99-F-71] (ITP/BO) for the Project pursuant to the Federal Endangered Species Act (ESA). For purposes of this ITP, where the terms and conditions for the Covered Species in the federal authorization are less protective of the Covered Species or otherwise conflict with this ITP, the conditions of approval set forth in this ITP shall control.

4. **ITP Time Frame Compliance:** Permittee shall fully implement and adhere to the conditions of this ITP within the time frames set forth below and as set forth in the Mitigation Monitoring and Reporting Program (MMRP), which is included as Attachment 1 to this ITP.

5. **General Provisions:**

5.1. Designated Representative. Before starting Covered Activities, Permittee shall designate a representative (Designated Representative) responsible for communications with CDFW and overseeing compliance with this ITP. Permittee shall notify CDFW in writing before starting Covered Activities of the Designated Representative's name, business address, and contact information, and shall notify CDFW in writing if a substitute Designated Representative is selected or identified at any time during the term of this ITP.

5.2. Authorized Biologist(s), Biological Monitor(s), Veterinarian(s), and Wildlife Rehabilitation Facilities. Permittee shall employ an approved Authorized Biologist(s) and Biological Monitor(s) whose qualifications have been reviewed and approved by CDFW. Permittee shall submit to CDFW in writing the name, qualifications, business address, and contact information of the Authorized Biologist(s) and Biological Monitor(s) using the Desert Tortoise Biologist Qualification Form and Biologist Resume Form for Mojave ground squirrel (Attachment 2 and Attachment 3) or another format containing the same information at least 30 days before starting Covered Activities. Permittee shall ensure that the Authorized Biologist(s) and Biological Monitor(s) are knowledgeable and experienced in the biology, natural history, and collecting and handling of the Covered Species. The Authorized Biologist(s) and Biological Monitor(s) shall be responsible for monitoring Covered Activities to help avoid, minimize and fully mitigate the incidental take of individual Covered Species and to minimize disturbance of Covered Species' habitat. Permittee shall obtain CDFW approval of the Authorized Biologist(s) and Biological Monitor(s) in writing before starting Covered Activities and shall also obtain approval in advance, in writing, if the Authorized Biologist(s) or Biological Monitor(s) must be changed. Additionally, prior to start of Covered Activities, Permittee shall identify a veterinarian(s) and wildlife rehabilitation facility(ies) that can accept incidentally injured Covered Species.

5.2.1. Authorized Biologist(s). Authorized Biologist(s) shall have knowledge of the biology and natural history of the Covered Species through education, trainings, field experience, and/or experience as an Authorized Biologist on similar projects, and experience

monitoring compliance of the conditions of approval within a state or federal ITP obtained for surface-disturbing projects in Covered Species habitat. Additionally, the Authorized Biologist for desert tortoise shall have experience with excavating burrows, handling and temporarily holding desert tortoises, translocating desert tortoises, reconstructing desert tortoise burrows, locating, identifying, and recording all forms of desert tortoise sign, conducting health assessments, attaching and removing transmitters, handling and moving eggs, and conducting protocol level presence/absence and clearance surveys. Authorized Biologist(s) for Mohave Ground Squirrel shall demonstrate experience with trapping Mohave ground squirrel as authorized under the Fish and Game Code, identifying Mohave ground squirrel in the field, handling and processing small mammals, scoping and excavating small mammal burrows, creating artificial burrows, and setting up camera stations and identifying species in photos.

5.2.2. Biological Monitor(s). Biological Monitor(s) shall have knowledge of the biology and natural history of the Covered Species through education, trainings, field experience, and/or experience as a Biological Monitor on similar projects, and experience conducting protocol level presence/absence surveys, locating, identifying, and recording all forms of desert tortoise sign, identifying Mohave ground squirrel in the field, setting up camera stations and identifying species in photos, and monitoring compliance of the conditions of approval within a state or federal ITP obtained for surface-disturbing projects in Covered Species habitat.

5.2.3. Veterinarian(s). Permittee shall identify a veterinarian(s) for both desert tortoise and Mohave ground squirrel. Permittee shall obtain written confirmation before starting Covered Activities from the veterinarian(s) that they will accept injured Covered Species for treatment. Written confirmation shall also contain the veterinarian's contact information. Permittee shall provide a copy to CDFW for review and approval of the veterinarian and their facility in writing before starting Covered Activities and shall also obtain CDFW's approval in advance, in writing, if the veterinarian(s) must be changed. The contact information and location of the facilities shall be on site for the Authorized Biologist(s) during Covered Activities.

5.2.4. Wildlife Rehabilitation Facilities. Permittee shall identify wildlife rehabilitation facilities that hold a current Memorandum of Understanding (MOU) issued by CDFW pursuant to Fish and Game Code section 2081(a) prior to start of Covered Activities and receive written confirmation from the facility that Covered Species individuals can be accepted for rehabilitation before starting Covered Activities. Written confirmation from the facility, contact information for the point of contact at the facility, and a copy of the facility's MOU shall be provided to CDFW for review and approval. Permittee shall obtain CDFW approval of the wildlife rehabilitation facilities in writing before starting Covered Activities and shall also obtain approval in advance, in writing, if the wildlife

rehabilitation facility must be changed. The contact information and location of the facilities shall be on-site for the Authorized Biologist(s) during Covered Activities.

5.3. Authorized Biologist(s) and Biological Monitor(s) Authority. To ensure compliance with the Conditions of Approval of this ITP, the Authorized Biologist(s) and/or Biological Monitor(s) shall have the authority to immediately order work to stop or halt any activity that does not comply with this ITP and/or order Permittee or its agents to implement any reasonable measure necessary to avoid the unauthorized take of an individual of the Covered Species. If a Biological Monitor or Authorized Biologist orders work to stop or halt, work shall not resume until an Authorized Biologist determines that all activities are in compliance with this ITP, as issued by CDFW. Permittee shall inform all employees, contractors, and agents conducting Covered Activities authorized under this ITP that the Authorized Biologist(s) and Biological Monitor(s) have the authority to stop or halt work. Permittee shall provide unfettered access to the Project Site and otherwise facilitate the Authorized Biologist(s) and Biological Monitor(s) in the performance of his/her duties. If the Authorized Biologist or Biological Monitor is unable to comply with this ITP, then the Authorized Biologist or Biological Monitor shall notify the CDFW Representative immediately. Permittee shall not enter into any agreement or contract of any kind regarding implementation of this ITP, including but not limited to non-disclosure agreements and confidentiality agreements, with its contractors and/or the Authorized Biologist(s) and Biological Monitor(s) that prohibit or impede open communication with CDFW, including but not limited to providing CDFW staff with the results of any surveys, reports, or studies or notifying CDFW of any non-compliance or take. Failure to notify CDFW of any non-compliance or take or injury of a Covered Species as a result of such agreement or contract may result in CDFW taking actions to prevent or remedy a violation of this ITP.

5.4. Education Program. Permittee shall conduct an education program prior to all Covered Activities for all employees, agents, or contractors that will be working on behalf of the Permittee in the Project Area. The education program shall include a discussion of the biology and general behavior of the Covered Species; information about the distribution and habitat needs of the Covered Species; sensitivity of the Covered Species to human activity; the legal status of the Covered Species under CESA, including their protected status, recovery efforts, penalties for violations; and the Project-specific protective measures detailed in this ITP. The education program shall consist of an in-person presentation from the Authorized Biologist or Biological Monitor and/or a digital presentation that can be accessed in the field via cellular phones, tablets, laptop computers, and/or similar portable devices. Permittee shall prepare and distribute wallet-sized cards or a fact sheet handout (hard copy or digital) detailing the information presented during the education program for workers to carry in the Project Area. In addition, a tail-gate presentation prior to surface-disturbing Covered Activities shall also be presented by the Authorized Biologist or Biological Monitor prior to the start of any Project-

specific Covered Activities to identify specific on-site resources identified for avoidance during pre-activity surveys. For the education program and each tailgate presentation, the Permittee shall provide interpretation for non-English speaking workers, and the same instruction shall be provided to any new workers before they are authorized to perform work in the Project Area. Upon completion of the program and after each tail-gate presentation, employees shall sign a form (hard-copy or digital) stating they attended the program and presentation and understand all protection measures. The form shall be made available to CDFW upon request.

5.5. Construction Monitoring Documentation. The Authorized Biologist(s) and Biological Monitor(s) shall maintain construction-monitoring documentation on-site in either hard copy or digital format throughout the construction period, which shall include a copy of this ITP with attachments and a list of signatures of all personnel who have successfully completed the education program. Permittee shall ensure a copy of the construction-monitoring documentation is available for review at the Project site upon request by CDFW.

5.6. Trash Abatement. Permittee shall initiate a trash abatement program before starting Covered Activities and shall continue the program for the duration of the Project. Permittee shall ensure that trash and food items are contained in self-closing, sealable, wind-proof, and animal-proof containers and are regularly inspected and removed, ideally at daily intervals but at least once a week from the Project Area, and prior to periods of inactivity, to avoid attracting opportunistic predators such as ravens, coyotes, and feral dogs.

5.7. Firearms and Dogs. Permittee shall prohibit project personnel or those associated with the Project from bringing any firearms and domestic dogs on the Project Area during Covered Activities, except those in the possession of authorized security personnel or local, state, or federal law enforcement officials' dogs that may be used to aid in official and approved monitoring procedures/protocols, or service dogs under Title II and Title III of the American with Disabilities Act.

5.8. Dust Control. Permittee shall implement dust control measures during Covered Activities to facilitate visibility for monitoring of the Covered Species by the on-site employees and the Authorized Biologist and/or Biological Monitor. Permittee shall keep the amount of water used to the minimum amount needed and shall not allow water to form puddles. Any tackifier or soil stabilizers shall be approved by CDFW prior to start Covered Activities.

5.9. Erosion Control Materials. Permittee shall prohibit use of erosion control materials potentially harmful to Covered Species and other species, such as monofilament netting (erosion control matting) or similar material, in potential Covered Species' habitat.

5.10. Delineation of Covered Activity Work Area Boundaries within the Project Area. Before starting surface disturbing Covered Activities, Permittee shall clearly delineate the

boundaries of the Covered Activity work area with fencing, stakes, or flags. Permittee shall restrict all Covered Activities to within the fenced, staked, or flagged areas. Permittee shall maintain all fencing, stakes, and flags until the completion of Covered Activities in that area.

5.11. Delineation of Habitat. Permittee shall clearly delineate habitat of the Covered Species within the Covered Activity work area when surface-disturbing Covered Activities occur with posted signs, posting stakes, flags, and/or rope or cord, and placing fencing as necessary to minimize the disturbance of Covered Species' habitat.

5.12. Project Access. Permittee shall ensure Project-related personnel access the Project Area using existing legal routes, including pipeline patrol roads and access roads identified in the Project Description and shall not cross Covered Species' habitat outside of or en route to the Covered Activity work area. Permittee shall restrict Project-related vehicle traffic to established roads, staging, and parking areas. Permittee shall ensure that vehicle speeds do not exceed 20 miles per hour to avoid Covered Species on or traversing the roads. Drivers shall stop the vehicle in areas of low visibility due to terrain and exit the vehicle to review the roadway ahead to confirm Covered Species are not within the roadway before proceeding. If a Covered Species is encountered, drivers shall stop (or remain stopped), and wait for the Covered Species to move off the road on its own accord out of harm's way.

5.13. Project Access Escorts. Along the route to the Covered Activity work area where Covered Species may be traversing the road, the Authorized Biologist or Biological Monitor shall escort project personnel to the Covered Activity work areas in situations where there is an increased potential for incidental take of the Covered Species through vehicular collisions due to decreased road visibility and/or lowered brake reaction time and insufficient stopping distances. Situations in which Authorized Biologist or Biological Monitor escorts shall be required include when more than two vehicles or heavy equipment are caravanning to the Covered Activity work area; when heavy equipment with limited visibility is being driven to the Covered Activity work area; and when flatbed trucks with trailers, dump trucks with trailers, and other vehicles with trailers are transporting equipment to the Covered Activity work area. The Authorized Biologist or Biological Monitor escorts and/or drivers shall stop the vehicle in areas of low visibility due to terrain and exit the vehicle to review the roadway ahead to confirm Covered Species are not within the roadway before proceeding. If a Covered Species is encountered, drivers shall stop (or remain stopped), wait for the Covered Species to move off the road on its own accord out of harm's way, or until the Authorized Biologist(s) has relocated the Covered Species.

5.14. Staging Areas. Permittee shall confine all Project-related parking, storage areas, laydown sites, equipment storage, and any other surface-disturbing activities to the Covered Activity work area using, to the extent possible, previously disturbed areas. Additionally, Permittee

shall not use or cross Covered Species' habitat outside of the marked Covered Activity work area unless provided for as described in Condition of Approval 5.12 of this ITP.

5.15. Hazardous Waste. Permittee shall immediately stop and, pursuant to pertinent state and federal statutes and regulations, arrange for repair and clean up by qualified individuals of any fuel or hazardous waste leaks or spills at the time of occurrence, or as soon as it is safe to do so. Permittee shall exclude the storage and handling of hazardous materials from the Project Area and shall properly contain and dispose of any unused or leftover hazardous products off-site.

5.16. CDFW Access. Permittee shall provide CDFW staff with reasonable access to the Project and mitigation lands under Permittee control, and shall otherwise fully cooperate with CDFW efforts to verify compliance with or effectiveness of mitigation measures set forth in this ITP.

5.17. Refuse Removal. Upon completion of Covered Activities in Covered Activity work areas, Permittee shall remove from the Project Area and properly dispose of all temporary fill and construction refuse, including, but not limited to, broken equipment parts, wrapping material, cords, cables, wire, rope, strapping, twine, buckets, metal or plastic containers, and boxes.

6. Monitoring, Notification and Reporting Provisions:

6.1. Notification Before Commencement. The Designated Representative shall notify CDFW 14 calendar days before starting Covered Activities and shall document compliance with all pre-Project Conditions of Approval before starting Covered Activities.

6.2. Notification of Non-compliance. The Designated Representative shall immediately notify CDFW if the Permittee is not in compliance with any Condition of Approval of this ITP, including but not limited to any actual or anticipated failure to implement measures within the time periods indicated in this ITP and/or the MMRP. The Designated Representative shall follow up within 24 hours with a written report to CDFW describing, in detail, any non-compliance with this ITP and suggested measures to remedy the situation.

6.3. Compliance Monitoring. The Authorized Biologist shall be on-site daily when surface-disturbing Covered Activities occur. The Authorized Biologist shall conduct compliance inspections to:

(1) minimize incidental take of the Covered Species;

(2) prevent unlawful take of species;

(3) check for compliance with all measures of this ITP;

(4) check all exclusion zones; and

(5) ensure that signs, stakes, and fencing are intact, and that Covered Activities are only occurring in the Project Area.

The Designated Representative or Authorized Biologist shall prepare daily written observation and inspection records summarizing oversight activities and compliance inspections, observations of Covered Species and their sign, survey results, and monitoring activities required by this ITP.

6.4. Quarterly Compliance Report. The Designated Representative or Authorized Biologist shall compile the observation and inspection records identified in Condition of Approval 6.3 into a Quarterly Compliance Report and submit it to CDFW by the 15th day of the month following the previous quarter along with a copy of the MMRP table with notes showing the current implementation status of each mitigation measure. The submission shall also include:

(1) A spreadsheet list accounting all the surface disturbing Covered Activities that occurred within the quarter with the type of Covered Activity performed and a reference number for each, the total acres of impact associated with each Covered Activity, the acres of impact to desert tortoise and Mohave ground squirrel Covered Species habitat, the location (latitude and longitude in decimal degrees), and the calculated mitigation requirement for CDFW review using mitigation ratios and any anticipated need for providing additional mitigation as described in Condition of Approval 8;

(2) A Keyhole Markup Language (KMZ) file of the Covered Activity work area boundaries with the acreage of impact and reference number in the metadata;

(3) Results of Desert Tortoise Pre-Covered Activity Presence/Absence Surveys (Condition of Approval 7.5);

(4) Results of Desert Tortoise Pre-Covered Activity Clearance Surveys (Condition of Approval 7.6);

(5) Desert Tortoise Relocation reporting and handling records (Condition of Approval 7.9);

(6) Mohave Ground Squirrel Relocation Plan reporting and handling records (Condition of Approval 7.14);

(7) Results of Mohave Ground Squirrel Survey for Pre-Planned Covered Activities (Condition of Approval 7.15);

(8) Mohave Ground Squirrel Burrow Scoping and Excavation reporting and handing records (Condition of Approval 7.16); and

(9) CNDDB observations (Condition of Approval 6.6).

Quarterly Compliance Reports shall be submitted to the CDFW offices listed in the Notices section of this ITP and via e-mail to CDFW's Regional Representative and Headquarters CESA Program. At the time of this ITP's approval, the CDFW Regional Representative is Ashley Rosales (Ashley.Rosales@Wildlife.ca.gov) and Headquarters CESA Program email is CESA@Wildlife.ca.gov. CDFW may at any time increase the timing and number of compliance inspections and reports required under this provision depending upon the results of previous compliance inspections. If CDFW determines the reporting contents or schedule must be changed, CDFW will notify Permittee in writing of the new requirements.

6.5. Annual Status Report. Permittee shall provide CDFW with an Annual Status Report (ASR) no later than January 31 of every year beginning with issuance of this ITP and continuing until CDFW accepts the Final Mitigation Report identified below. Each ASR shall include, at a minimum:

(1) a summary of all Quarterly Compliance Reports for that year identified in Condition of Approval 6.4;

(2) a general description of the status of the Project Area and Covered Activities;

(3) a copy of the table in the MMRP with notes showing the current implementation status of each mitigation measure;

(4) an assessment of the effectiveness of each completed or partially completed mitigation measure in avoiding, minimizing and mitigating Project impacts;

(5) all available information about Project-related incidental take of the Covered Species;

(6) an accounting of the number of acres of impact to Covered Species habitat subject to surface disturbance for the prior calendar year, and a total since ITP issuance;

(7) information about other Project impacts on the Covered Species; and

(8) CNDDB observations (Condition of Approval 6.6).

6.6. CNDDB Observations. The Permittee or Authorized Biologist shall submit all observations of Covered Species within the Covered Activity work area or found during Project-related

surveys to CDFW's California Natural Diversity Database (CNDDB) within 60 calendar days of the observation and the Authorized Biologist shall include copies of the submitted forms with the next Quarterly Compliance Report or ASR, whichever is submitted first relative to the observation.

6.7. Final Mitigation Report. No later than 45 days after completion of all mitigation measures, Permittee shall provide CDFW with a Final Mitigation Report. The Authorized Biologist shall prepare the Final Mitigation Report which shall include, at a minimum: (1) a summary of all Quarterly Compliance Reports and all ASRs; (2) a copy of the table in the MMRP with notes showing when each of the mitigation measures was implemented; (3) all available information about Project-related incidental take of the Covered Species; (4) information about other Project impacts on the Covered Species; (5) an assessment of the effectiveness of this ITP's Conditions of Approval in minimizing and fully mitigating Project impacts of the taking on Covered Species; (6) recommendations on how mitigation measures might be changed to more effectively minimize take and mitigate the impacts of future projects on the Covered Species; and (7) any other pertinent information.

6.8. Notification of Take or Injury. Permittee shall immediately notify the Authorized Biologist if a Covered Species is taken or injured by a Project-related activity, or if a Covered Species is otherwise found dead or injured within the vicinity of the Covered Activity work area or a Permittee pipeline access road. The Authorized Biologist or Designated Representative shall provide initial notification to CDFW by emailing the CDFW Regional Representative as described in the Notices section of this ITP within 24 hours. The initial notification to CDFW shall include information regarding the location, species, and number of animals taken or injured and the ITP Number. Following initial notification, Permittee shall send CDFW a written report within two calendar days. The report shall include the date and time of the finding or incident, location of the animal or carcass, and if possible, provide a photograph, explanation as to cause of take or injury, and any other pertinent information. In addition, the report shall identify proposed corrective measures that shall be implemented, subject to prior review and approval by CDFW, during subsequent Covered Activities. The corrective measures at a minimum shall propose methods to prevent or minimize future take or injury of Covered Species in a similar manner in the future and if approved by CDFW be immediately implemented for all Covered Activities.

7. Take Minimization Measures: The following requirements are intended to ensure the minimization of incidental take of Covered Species in the Project Area during Covered Activities. Permittee shall implement and adhere to the following conditions to minimize take of Covered Species:

7.1. Drilling Materials and Frac-Out Contingency Plan. Permittee shall prepare and implement a frac-out contingency plan prior to beginning of all Covered Activities. To minimize impacts

to Covered Species, the plan shall require the following conditions: drilling mud shall be contained and removed from/hauled off the Covered Activity work area and disposed of in an appropriate manner at the completion of Covered Activities; Permittee shall use benign material in the drilling muds to avoid contamination of any water or habitat; Permittee shall not allow drill cuttings, drilling mud, and/or materials or water contaminated with bentonite, or any other substance deemed deleterious to wildlife be allowed to enter Covered Species habitat, or be placed where they may be washed into the Covered Species habitat; any contaminated water/materials from the drilling and/or project activities shall be pumped or placed into a holding facility and removed for proper disposal; in case of a frac-out, all drilling shall cease, and all personal shall implement the frac-out cleanup contingency plan; Covered Activities shall not resume until the frac-out is located, contained, and cleaned up consistent with the frac-out contingency plan; Permittee shall notify CDFW immediately in the event of a frac-out. The frac-out contingency plan shall be onsite at all times during pertinent Covered Activities and all project personnel shall have pre-arranged duties in case of a frac-out. Clean up equipment for any potential frac-out shall be onsite prior to the start of pertinent Covered Activities.

7.2. Covered Species Injury. If a Covered Species is injured as a result of Project-related activities, the Authorized Biologist shall immediately take it to the CDFW-approved wildlife rehabilitation or veterinary facility. Permittee shall bear any costs associated with the care or treatment of such injured Covered Species. Permittee shall be responsible for the monetary cost of the animal until the animal is permanently placed with a rehabilitation facility or re-released into the wild. The Permittee shall notify CDFW of the injury to the Covered Species immediately by e-mail followed by a written incident report as described in Condition 6.8. Notification shall include the name of the facility where the animal was taken.

7.3. Entrapment Inspections. Any pipes, culverts, or similar structures with a diameter greater than 3 inches and less than 8 inches aboveground shall be inspected by the Authorized Biologist(s) or Biological Monitor(s) for Covered Species before the pipe, culvert, or similar structure is moved, buried, or capped. The Authorized Biologist(s) or Biological Monitor(s) shall inspect all open holes and trenches within Covered Species habitat at a minimum of twice a day and just prior to back-filling. At the end of each workday, Permittee shall place an escape ramp at each end of trenches to allow any animals that may have become trapped in the hole or trench to climb out overnight. The ramp may be constructed of either dirt fill or wood planking or other suitable material that is placed at an angle no greater than 30 degrees. If any worker discovers that Covered Species have become trapped, they shall halt Covered Activities and notify the Authorized Biologist(s) or Biological Monitor(s) immediately. Project workers, Biological Monitor(s), or Authorized Biologist(s) shall allow the individual to escape unimpeded if possible, or an Authorized Biologist(s) shall move the individual out of harm's way before allowing work to continue.

7.4. Vehicle and Equipment Inspection. Permittee shall require workers to inspect for Covered Species under vehicles and equipment before the vehicles and equipment are moved. If a Covered Species is present, the worker shall contact the Authorized Biologist(s) or Biological Monitor(s) and wait for the individual to move unimpeded to a safe location or the Authorized Biologist(s) shall relocate the individual before moving vehicles and equipment.

7.5. Desert Tortoise Pre-Covered Activity Presence/Absence Surveys. No more than 30 calendar days prior to start of any surface-disturbing Covered Activities, the Authorized Biologist(s) and/or Biological Monitor(s) approved by CDFW for the task shall conduct pre-Covered Activity presence/absence surveys for desert tortoise, using the methods described in the most recent United States Fish and Wildlife Service (USFWS) Desert Tortoise (Mojave Population) Field Manual (hereinafter referred to as USFWS Field Manual). In addition to the guidance provided in the USFWS Field Manual, Permittee shall also comply with the following CDFW requirement(s):

(1) Pre-Covered Activities presence/absence surveys shall be completed using perpendicular survey routes, and cannot be combined with other surveys conducted for other species while using the same personnel, and these surveys shall cover 100 percent of the Covered Activity work area and a 300-foot buffer zone.

(2) The Biological Monitor(s) or Authorized Biologist(s) shall record all desert tortoise live individuals, burrows, or other sign within the survey area using high-accuracy (< 1 meter) global positioning system (GPS) technology.

(3) The Biological Monitor(s) or Authorized Biologist shall visually demarcate all potential desert tortoise burrows within each Covered Activities work area and 50-foot buffer to alert biological and work crews to their presence in a manner that does not attract predators.

(4) The Biological Monitor(s) or Authorized Biologist(s) shall provide the results of the Pre-Covered Activities presence/absence survey (using the USFWS Protocol data sheet) to CDFW quarterly per Condition of Approval 6.4.

7.6. Desert Tortoise Pre-Covered Activity Clearance Surveys. Within 24 hours prior to start of Covered Activities, the Authorized Biologist(s) approved by CDFW for this activity shall conduct pre-Covered Activities clearance surveys for desert tortoise, using the methods described in the most recent USFWS Field Manual. In addition to the guidance provided in the USFWS Field Manual, Permittee shall comply with the following CDFW requirement(s):

(1) Pre-Covered Activities clearance surveys shall be completed using perpendicular survey routes, and cannot be combined with other surveys conducted for other

species while using the same personnel, Covered Activities cannot start until two (2) negative results from consecutive surveys using perpendicular survey routes for desert tortoise are documented, and these surveys shall cover 100 percent of the Covered Activities work area and a 50-foot buffer zone.

(2) The Authorized Biologist(s) shall record any new desert tortoise individuals, burrows, or other sign within the pre-Covered Activities clearance survey area, using high-accuracy (< 1 meter) global positioning system (GPS) technology that were not documented in the pre-Covered Activities presence/absence survey.

(3) The Authorized Biologist shall visually demarcate any new potential desert tortoise burrows within each Covered Activities work area or 50-foot buffer zone to alert biological and work crews to their presence in a manner that does not attract predators and ensure previous demarcation materials remained intact.

(4) The use of specialized equipment (e.g., fiber optics) shall be used to thoroughly inspect all burrows.

(5) Permittee shall provide the results of the pre-Covered Activities clearance survey (using the USFWS Protocol data sheet) to CDFW quarterly per Condition of Approval 6.4.

7.7. Desert Tortoise Exclusionary Fencing. Permittee shall construct any temporary or permanent desert tortoise fencing used during surface disturbing Covered Activities in the Project area according to the USFWS Field Manual. Any request for variance to the fencing specifications within the USFWS Manual shall be reviewed and approved by CDFW on a case-by-case basis prior to the Covered Activity. The Authorized Biologist shall immediately conduct an additional clearance survey following the erection of desert tortoise exclusionary fencing within the fenced area. The Authorized Biologist(s) shall inspect the desert tortoise fence each morning prior to the start of Covered Activities, during Covered Activities, and at the end of the workday after Covered Activities have ceased. The Authorized Biologist shall inspect the fence within 24 hours after major rainfall events prior to recommencing Covered Activities to ensure the fence is not compromised. Permittee shall repair the fence immediately if the fence is found down or a hole is discovered. The Authorized Biologist shall perform a clearance survey immediately after the fencing is repaired and prior to recommencing Covered Activities.

7.8. Unfenced Covered Activities Work Areas. Any surface-disturbing Covered Activities conducted in an area that is not fenced to exclude desert tortoises shall be monitored by an Authorized Biologist who shall halt work if a desert tortoise enters the Covered Activity work area or an adjacent area where take or injury to the individual may occur. Covered Activities shall only proceed at the site after the desert tortoise has either moved away of

its own accord or has been relocated off the site per the Desert Tortoise Relocation Plan approved by CDFW (Condition of Approval 7.9). Any Covered Activities that do not require surface disturbance, including pipeline patrols, valve inspection and lubrication, integrity management activities, and telecommunication site inspections shall have an Authorized Biologist on-call that can immediately go into the field to address compliance with this ITP.

7.9. Desert Tortoise Relocation. Regardless of the number of desert tortoise estimated to be relocated a short distance away out of harm's way, Permittee shall prepare a Desert Tortoise Relocation Plan for CDFW review at least 60 calendar days prior to start of all Covered Activities. The relocation plan shall include parameters in which Authorized Biologists may relocate desert tortoise to minimize impact to the individual. The plan shall contain at a minimum the following descriptions:

(1) Recipient site selection criteria and characteristics that will benefit the relocated desert tortoise (including land ownership, maximum distance from Covered Activities work area based on surround land uses, presence of native vegetation species and percentage of cover, no predator sign and concentrations, friable soil types, and lack of anthropogenic features);

(2) Minimum distance away from paved highway/roads to reduce vehicular strikes;

(3) Survey requirement to identify unoccupied natural burrows available for immediate use or enhancement and the creation and design of supplemental artificial burrows within the site;

(4) Procedures for relocation of tortoises and eggs;

(5) Post-relocation monitoring of individuals by the Authorized Biologist(s) for at least two days after placement in the new burrows to ensure their safety;

(6) Health assessments;

(7) Shade structures and shelters to minimize potential heat stress and exposure to lethal temperatures;

(8) Disinfectant and sanitation to prevent spread of disease;

(9) Handling and releasing procedures including temperature restrictions to prevent overheating (no desert tortoise shall be captured, moved, transported, released, or purposefully caused to leave its burrow for whatever reason when the ambient air temperature is above 95° Fahrenheit (F)), and requirements to rehydrate the

individuals that void its bladder during handling at the location where the individual was captured, or the location where the individual will be released out of harm's way by the Authorized Biologist;

(10) Attaching transmitters to assist with monitoring;

(11) Transporting procedures;

(12) Temporary penning procedures;

(13) Construction coordination; and

(14) Quarterly reporting requirements to CDFW.

All CDFW comments shall be resolved and incorporated into a final Desert Tortoise Relocation Plan. Covered Activities shall not commence until the plan is approved in writing by CDFW. The Authorized Biologist(s) shall maintain a record of all desert tortoises handled. The Desert Tortoise Relocation Plan shall be updated and otherwise amended to include the latest science and guidance as directed by CDFW.

7.10. Desert Tortoise Observations. If a desert tortoise is observed during surface disturbing Covered Activities within or near the Covered Activity work area, the observation shall be immediately reported to the on-site Authorized Biologist(s) or Biological Monitor. If the Authorized Biologist or Biological Monitor determines take or injury may occur, all work shall immediately halt and Covered Activities shall not resume until the Authorized Biologist(s) has verified the desert tortoise has left the Covered Activity work area, determined there is an appropriate buffer between the Covered Activities, and the desert tortoise can be monitored to prevent take, or the individual is relocated as described the Desert Tortoise Relocation Plan. Permittee shall immediately notify CDFW of any desert tortoise observations within the Covered Activity work area within 24 hours. Notification and the written report shall include the date, location (including GPS coordinates), and circumstances of the observation, the name of the Authorized Biologist(s), pictures, map (including GPS coordinates), and if applicable, the shapefiles with the location where the individual was moved as specified in the Desert Tortoise Relocation Plan.

7.11. Excavating Desert Tortoise Burrows. Only Authorized Biologist(s) approved by CDFW are authorized to conduct desert tortoise burrow excavation. Excavation of burrows shall follow the methods described in the USFWS Field Manual. All potential desert tortoise burrows identified during pre-Covered Activities surveys and clearance surveys conducted in the Covered Activity work area which cannot be avoided, shall be fully excavated by hand. Any individuals removed from burrows shall be transmittered and relocated per the

Desert Tortoise Relocation Plan. All burrows that can be avoided shall remain visually demarcated and monitored until completion of Covered Activities in that area.

7.12. Desert Tortoise Nests. In the event that an active desert tortoise nest is detected during pre-Covered Activities surveys, burrow excavation, or during Covered Activities, procedures outlined in the USFWS Desert Tortoise Field Manual regarding nests and eggs shall be followed by an Authorized Biologist approved by CDFW to perform the task. CDFW shall be notified immediately upon discovery of an active desert tortoise nest, and the site of egg relocation shall be approved by CDFW prior to relocation through implementation of a Desert Tortoise Relocation Plan.

7.13. Raven Management. Permittee shall prepare a Raven Management Plan (RMP) to minimize the potential to attract common ravens to the Project area and submit it to CDFW for review and approval at least 60 Calendar days prior to start of Covered Activities in the Project area. All CDFW comments shall be resolved and incorporated, and Covered Activities shall not commence until the RMP is approved in writing by CDFW. With implementation, the RMP shall minimize impacts to desert tortoise by reducing the potential to attract common ravens that may prey upon desert tortoise. The Permittee prepared RMP shall

1) Identify conditions associated with Covered Activities that might provide raven subsidies or attractants;

2) Describe management practices to avoid or minimize conditions that might increase raven numbers and predatory activities; and

3) Describe monitoring during Covered Activities, including methods to identify individual ravens that prey on desert tortoises.

The RMP shall be an amendable document that shall be updated to include the latest science and guidance as directed by CDFW. Permittee shall provide funds to the Desert Managers Group account established with the National Fish and Wildlife Foundation to contribute to a region-wide raven control plan to help address raven predation on the desert tortoise. This contribution shall be used to address raven predation on a regional basis and shall be calculated as a one-time payment of $105 per acre of project disturbance covered under this ITP, totaling $135,450.00 for 1,290 acres of estimated impact over the 30-year term.

7.14. Mohave Ground Squirrel Relocation Plan. Regardless of the number of Mohave ground squirrel estimated to be relocated a short distance away out of harm's way, Permittee shall prepare and submit a Mohave Ground Squirrel Relocation Plan for CDFW review at least 60

calendar days prior to start of all Covered Activities. The relocation plan shall include parameters in which Authorized Biologists may relocate Mohave ground squirrel to minimize impact to the individual. The plan at a minimum shall contain the following descriptions:

(1) Recipient site selection criteria and characteristics that will benefit the relocated Mohave ground squirrel (including land ownership, maximum distance from Covered Activity work area based on surround land uses, presence of native vegetation species and percentage of cover, no predator sign and concentrations, friable soil types, and lack of anthropogenic features);

(2) Minimum distance away from paved highway/roads to reduce vehicular strikes;

(3) Survey requirement to identify unoccupied natural burrows available for immediate use or enhancement and the design and installation of supplemental artificial burrows within the site;

(4) Burrow excavation methods;

(5) Trapping procedures following CDFW protocol;

(6) Procedures for relocation;

(7) Post-relocation monitoring;

(8) Health assessments;

(9) Handling and releasing procedures including temperature restrictions (no Mohave ground squirrel shall be captured, moved, transported, released, or purposefully caused to leave its burrow for whatever reason when the ambient air temperature is above 90°F);

(10) Transporting procedures;

(11) Temporary holding procedures;

(12) Construction coordination, and

(13) Quarterly reporting requirements to CDFW.

All CDFW comments shall be resolved and/or incorporated prior to approval of the plan. Covered Activities shall not commence until the plan is approved in writing by CDFW. The Authorized Biologist(s) shall maintain a record of all Mohave ground squirrels handled. The Mohave Ground Squirrel Relocation Plan shall be an amendable document that shall be updated to include the latest science and guidance as directed by CDFW.

7.15. Mohave Ground Squirrel Survey for Pre-Planned Covered Activities. For known pre-planned surface-disturbing Covered Activities taking place in the distribution range of Mohave ground squirrel within the calendar year that are scheduled to commence during or after Mohave ground squirrel active season, Permittee shall survey the Covered Activities work area during Mohave ground squirrel active season. Surveys shall include visual surveys performed by the Biological Monitor or Authorized Biologist. Visual surveys to determine Mohave ground squirrel activity and habitat quality shall be undertaken during the period of March 15 through April 15. All potential habitat within the Covered Activities work area and 300-foot buffer shall be visually surveyed during daylight hours. If visual surveys do not reveal presence of Mohave ground squirrel within the Covered Activities work area or adjacent buffer, the Biological Monitor or Authorized Biologist shall set and maintain a minimum of five baited camera stations (or more for larger work areas to provide adequate coverage) dispersed in the Covered Activities work area and adjacent habitat. Camera stations shall consist of the camera mounted on a T-post or U-post with bait tubes or caged bait boxes staked to the ground. Feed blocks and free bait are prohibited. Cameras shall be deployed at the start of the each of the listed sessions and run for at least the 5-day duration of each session unless presence is confirmed in a previous session: March 15 through April 30; May 1 through May 31; and June 1 through July 15. Upon completion of survey work, all equipment, supplies, and refuse shall be removed including unused bait. Permittee shall submit a report documenting the results of the surveys to CDFW quarterly, including camera station photos.

7.16. Mohave Ground Squirrel Burrow Pre-Covered Activities Surveys. For surface-disturbing Covered Activities planned during Mohave ground squirrel dormant season or for Project Areas with confirmed Mohave ground squirrel presence during visual surveys or camera stations, no more than 30 calendars days prior to the start of ground-disturbing activities the Authorized Biologist(s) and/or Biological Monitor(s) shall perform a pre-Covered Activities survey for Mohave ground squirrel burrows covering the Covered Activities work area and an appropriate buffer zone as determined by the Authorized Biologist. All known or suspected Mohave ground squirrel burrows (any burrow of sufficient size to allow an adult or juvenile Mohave ground squirrel to enter) within the Covered Activities work area shall be visually demarcated in a manner that does not attract predators to alert biological crews to their presence. Permittee shall submit a report documenting the results of the surveys to CDFW quarterly.

7.17. Mohave Ground Squirrel Burrow Scoping and Excavation. Within 7 days prior to the start of surface-disturbing Covered Activities, the Authorized Biologist shall live trap or scope and fully excavate by hand all potential Mohave ground squirrel burrows within the Covered Activities work area, and as determined by the Authorized Biologist, burrows adjacent to the work area that are suspected or known to be occupied by Mohave ground squirrels that will be directly or indirectly impacted by surface-disturbing Covered Activities. Burrows that can be avoided shall remain intact but visually demarcated. During the Mohave ground squirrel active period (generally March 15–July 15), the Authorized Biologist(s) shall relocate Mohave ground squirrel individuals live trapped per the Mohave Ground Squirrel Relocation Plan approved by CDFW. Any individuals encountered by the Authorized Biologist(s) in the excavated burrows during their active period shall be allowed to escape out of harm's way. During the Mohave ground squirrel dormant period (generally September 1–January 31), the Authorized Biologist shall collect and immediately relocate the individuals per the Mohave Ground Squirrel Relocation Plan. Excavation shall not be performed when the ambient air temperature exceeds 90° F. The Authorized Biologist(s) shall maintain a record of all Mohave ground squirrel handled or encountered. Permittee shall submit a report documenting the results to CDFW quarterly.

8. Habitat Management Land Acquisition: CDFW has determined that permanent protection and perpetual management of compensatory habitat is necessary and required pursuant to CESA to fully mitigate Project-related impacts of the taking on the Covered Species that will result from implementation of the Covered Activities. This determination is based on factors including an assessment of the importance of the habitat in the Project Area, the extent to which the Covered Activities will impact the habitat, and CDFW's estimate of the protected acreage required to provide for adequate compensation. Permittee shall provide compensatory habitat, in advance, for each defined compensatory mitigation period (defined below) prior to start of the Covered Activities for that term.

Compensatory Mitigation Period 1 is Year 1 of this ITP, starting upon ITP execution

Compensatory Mitigation Period 2 is Year 2 through Year 10 of this ITP.

Compensatory Mitigation Period 3 is Year 11 through Year 20 of this ITP.

Compensatory Mitigation Period 4 is Year 21 through Year 25 of this ITP.

Compensatory Mitigation Period 5 is Year 26 through Year 30 of this ITP.

To meet this requirement, the Permittee shall either purchase a portion or all of the required compensation habitat as acres of Covered Species credits from a CDFW-approved mitigation or conservation bank pursuant to Condition of Approval 8.2 below AND/OR shall provide for both the permanent protection and management of a portion or all of the required compensation

habitat acres of Habitat Management (HM) lands pursuant to Condition of Approval 8.3 below and the calculation and deposit of the management funds pursuant to Condition of Approval 8.4 below such that the total combined acreage of purchased species credits and HM lands total the amount of estimated compensatory habitat acreage required for each compensatory mitigation period as required below. Purchase of Covered Species credits AND/OR permanent protection and funding for perpetual management of HM lands must be completed in advance before starting Covered Activities for each defined compensatory mitigation period (defined below), or within 18 months of initiating Covered Activities for each compensatory mitigation period if Security is provided pursuant to Condition of Approval 9 below for all uncompleted obligations. Permittee's take authorization under this ITP for each compensatory mitigation period is contingent upon Permittee completing the compensatory mitigation, or providing security for that mitigation, prior to the beginning of that compensatory mitigation period. The estimated impacted acreage for the full 30-year ITP term subject to compensatory mitigation is 1,290 acres. The estimated acreage for each compensatory mitigation period assumes Covered Activities will impact 43 acres annually, all 43 acres of which are desert tortoise habitat and 16 acres of which are Mohave ground squirrel habitat. Estimated mitigation acres for those impacts are calculated using a 3:1 ratio (3 acres of compensatory mitigation for every 1 acre of Covered Activity impact). Compensatory mitigation for desert tortoise and Mohave ground squirrel may co-occur on the same acres where dual Covered Species credits are available for purchase or HM lands contain habitat for both species.

The estimated compensatory mitigation required for Covered Species and the method of completion of Permittee obligations is as follows:

(1) For Compensatory Mitigation Period 1 (Year 1, starting upon ITP execution), Permittee shall provide compensatory mitigation for the first year of impacts prior to the start of Year 1 Covered Activities by providing 129 acres of compensatory mitigation for desert tortoise and 48 acres of compensatory mitigation for Mohave ground squirrel.

(2) For Compensatory Mitigation Period 2 (Year 2 through Year 10), Permittee shall mitigate for the Years 2 through 10 impacts by providing 1,161 acres of compensatory mitigation for desert tortoise and 432 acres of compensatory mitigation for Mohave ground squirrel. At the beginning of Year 10 from the date of ITP execution, Permittee shall review the difference between the estimated Covered Activities impacts with the actual post-Covered Activities impact acres associated with each mitigation ratio (defined below) for Years 1 through 9 and provide that information to CDFW no later than 6 months prior to Compensatory Mitigation Period 3. CDFW will review and, if in agreement, will provide concurrence. Should actual post-Covered Activities impact exceed the compensatory mitigation provided for Compensatory Mitigation Periods 1 and 2, Permittee shall provide any deficit required compensatory mitigation acreage no later than 90 days prior to the start of Year 11.

(3) For Compensatory Mitigation Period 3 (Year 11 through Year 20), Permittee shall mitigate for the Years 11 through 20 impacts by providing 1,290 acres of compensatory mitigation for desert tortoise and 480 acres of compensatory mitigation for Mohave ground squirrel. Any excess compensatory mitigation acres from Years 1 through 9 will be applied to reduce the acre requirement accordingly. At the beginning of Year 20, Permittee shall review the difference between the estimated Covered Activities impacts with the actual post-Covered Activities impact acres associated with each mitigation ratio (defined below) for years 10 through 19 and provide that information to CDFW no later than 6 months prior to Compensatory Mitigation Period 4. CDFW will review and, if in agreement, will provide concurrence. Should actual post-Covered Activities impact exceed the compensatory mitigation provided for Compensatory Mitigation 3, Permittee shall provide any deficit required compensatory mitigation no later than 90 days prior to the start of Year 21.

(4) For Compensatory Mitigation Period 4 (Year 21 through Year 25), Permittee shall mitigate for the years 21 through 25 impacts by providing 645 acres of compensatory mitigation for desert tortoise and 240 acres of compensatory mitigation for Mohave ground squirrel. Any excess compensatory mitigation acres from years 10 through 19, shall be applied to reduce the acre requirement accordingly. At the beginning of year 25, Permittee shall review the difference between the estimated Covered Activities impacts with the actual post-Covered Activities impact acres associated with each mitigation ratio (defined below) for years 20 through 24 and provide that information to CDFW no later than 6 months prior to Compensatory Mitigation Period 5. CDFW will review and, if in agreement, will provide concurrence. Should actual post-Covered Activities impact exceed the compensatory mitigation provided for Compensatory Mitigation 4, Permittee shall provide any deficit required compensatory mitigation no later than 90 days prior to the start of Year 26.

(5) For Compensatory Mitigation Period 5 (Year 26 through Year 30), Permittee shall mitigate for the years 26 through 30 impacts by providing 645 acres of compensatory mitigation for desert tortoise and 240 acres of compensatory mitigation for Mohave ground squirrel. Any excess compensatory mitigation acres from years 20 through 24 shall be applied to reduce the acre requirement accordingly. Permittee shall provide any deficit required mitigation no later than 90 days prior to the end of Year 30. Should actual post-Covered Activities impact exceed the compensatory mitigation provided for Compensatory Mitigation 5, Permittee shall provide any deficit required compensatory mitigation no later than 90 days prior to the start of Year 30.

The mitigation ratios for actual post -Covered Activities impact acres shall be calculated as follows:

For Project areas not identified below, Permittee shall mitigate impacts at a 2:1 ratio (provide 2 acres of compensatory habitat for 1 acre of impact).

For Project areas that occur within Desert Wildlife Management Areas; Areas of Critical Environmental Concern; Mohave ground squirrel peripheral population areas, population dispersal areas, and linkage areas; and Mohave Ground Squirrel Conservation areas that do not overlap with areas identified below, Permittee shall mitigate impacts at a 3:1 ratio (provide 3 acres of compensatory habitat for 1 acre of impact).

For Project areas in desert tortoise critical habitat or Mohave ground squirrel core population areas, Permittee shall mitigate impacts at a 5:1 ratio (provide 5 acres of compensatory habitat for 1 acre of impact).

Every 10 years, CDFW shall review the compensatory mitigation ratios above based on the best available scientific information regarding species status and determine whether the mitigation ratios continue to fully mitigate project impacts under CESA. CDFW may revise the mitigation ratios within this ITP if, based on CDFW's review, the mitigation does not fully mitigate all the impacts of the taking of the species based on changes to species status, threats, and/or distribution.

8.1. Cost Estimates. For the purposes of determining the Security amount, CDFW has estimated the cost sufficient for CDFW or its contractors to complete acquisition, protection, and perpetual management of the HM lands for Compensatory Period 1 below.

The Security amount for each subsequent compensatory mitigation period specific to the mitigation obligation that has not been completed shall be requested from CDFW by the Permittee as described in Condition of Approval 9.1.

8.1.1. Land acquisition costs for HM lands identified in Condition of Approval 8.3 below, estimated at $5,000.00/acre for 129 acres: **$645,000.00**. Land acquisitions costs are estimated using local fair market current value per acre for lands with habitat values meeting mitigation requirements;

8.1.2. All other costs necessary to review and acquire the land in fee title and record a conservation easement as described in Condition of Approval 8.3.1 and 98.3.2 below: **$17,440.00**;

8.1.3. Start-up costs for HM lands, including initial site protection and enhancement costs as described in Condition of Approval 8.3.5 below, estimated at **$258,000.00**; including.

8.1.4. Interim management period funding as described in Condition of Approval 8.3.6 below, estimated at **$77,500.00**;

8.1.5. Long-term management funding as described in Condition of Approval 8.4 below, estimated at $3,000.00/acre for 129 acres: **$387,000.00**. Long-term management funding is estimated initially for the purpose of providing Security to ensure implementation of HM lands management.

8.1.6. Related transaction fees including but not limited to account set-up fees, administrative fees, title and documentation review and related title transactions, expenses incurred from other state agency reviews, and overhead related to transfer of HM lands to CDFW as described in Condition of Approval 8.5, estimated at **$6,000.00**.

8.1.7. All costs associated with CDFW engaging an outside contractor to complete the mitigation tasks, including but not limited to acquisition, protection, and perpetual funding and management of the HM lands and restoration of temporarily disturbed habitat. These costs include but are not limited to the cost of issuing a request for proposals, transaction costs, contract administration costs, and costs associated with monitoring the contractor's work **$75,000.00**.

8.2. Covered Species Credits. If the Permittee elects to purchase Covered Species credits to complete all or a portion of the compensatory mitigation obligations for each compensatory mitigation period, then Permittee shall purchase all or a portion of acres of Covered Species credits from a CDFW-approved mitigation or conservation bank prior to initiating Covered Activities for that compensatory mitigation period, or no later than 18 months from the start of Covered Activities associated with that period if Security is provided pursuant to Condition of Approval 9 below. Prior to purchase of Covered Species credits, Permittee shall obtain CDFW approval to ensure the mitigation or conservation bank is appropriate to compensate for the impacts of the Project. Permittee shall submit to CDFW a copy of the Bill of Sale(s) and Payment Receipt prior to initiating Covered Activities for that compensatory mitigation period or within 18 months from start of Covered Activities associated with that period if Security is provided.

8.3. Habitat Management Lands Acquisition and Protection. If the Permittee elects to provide for the acquisition, permanent protection, and perpetual management of HM lands to complete all or a portion of compensatory mitigation obligations, then the Permittee shall:

8.3.1. Fee Title. Transfer fee title of the HM lands to CDFW pursuant to terms approved in writing by CDFW. Alternatively, CDFW, in its sole discretion, may authorize a governmental entity, special district, non-profit organization, for-profit entity, person, or another entity to hold title to and manage the property provided that the district, organization, entity, or person meets the requirements of Government Code sections 65965-65968, as amended.

8.3.2. Conservation Easement. If CDFW does not hold fee title to the HM lands, CDFW shall act as grantee for a conservation easement over the HM lands or shall, in its sole discretion, approve a non-profit entity, public agency, or Native American tribe to act as grantee for a conservation easement over the HM lands provided that the entity, agency, or tribe meets the requirements of Civil Code section 815.3. If CDFW elects not to be named as the grantee for the conservation easement, CDFW shall be expressly named in the conservation easement as a third-party beneficiary. The Permittee shall obtain CDFW written approval of any conservation easement before its execution or recordation. No conservation easement shall be approved by CDFW unless it complies with Civil Code sections 815-816, as amended, and Government Code sections 65965-65968, as amended and includes provisions expressly addressing Government Code sections 65966(j) and 65967(e). Because the "doctrine of merger" could invalidate the conservation interest, under no circumstances can the fee title owner of the HM lands serve as grantee for the conservation easement.

8.3.3. HM Lands Approval. Obtain CDFW written approval of the HM lands before acquisition and/or transfer of the land by submitting, at least three months before acquisition and/or transfer of the HM lands, documentation identifying the land to be purchased or property interest conveyed to an approved entity as mitigation for the Project's impacts on Covered Species;

8.3.4. HM Lands Documentation. Provide a recent preliminary title report, Phase I Environmental Site Assessment, and other necessary documents (please contact CDFW for document list). All documents conveying the HM lands and all conditions of title are subject to the approval of CDFW, and if applicable, the Wildlife Conservation Board and the Department of General Services;

8.3.5. Land Manager. Designate both an interim and long-term land manager approved by CDFW. The interim and long-term land managers may, but need not, be the same. The interim and/or long-term land managers may be the landowner or another party. Documents related to land management shall identify both the interim and long-term land managers. Permittee shall notify CDFW of any subsequent changes in the land manager within 30 days of the change. If CDFW will hold fee title to the mitigation land, CDFW will also act as both the interim and long-term land manager unless otherwise specified. The grantee for the conservation easement cannot serve as the interim or long-term manager without the express written authorization of CDFW in its sole discretion.

8.3.6. Start-up Activities. Provide for the implementation of start-up activities, including the initial site protection and enhancement of HM lands, once the HM lands have been approved by CDFW. Start-up activities include, at a minimum: (1) preparing a final management plan for CDFW approval (see A Guide and Annotated Outline for Writing

Land Management Plans (ca.gov)) (2) conducting a baseline biological assessment and land survey report within four months of recording or transfer; (3) developing and transferring Geographic Information Systems (GIS) data if applicable; (4) establishing initial fencing; (5) conducting litter removal; (6) conducting initial habitat restoration or enhancement, if applicable; and (7) installing signage;

8.3.7. Interim Management (Initial and Capital). Provide for the interim management of the HM lands. The Permittee shall ensure that the interim land manager implements the interim management of the HM lands as described in the final management plan and conservation easement approved by CDFW. The interim management period shall be a minimum of three years from the date of HM land acquisition and protection and full funding of the Endowment and includes expected management following start-up activities. Interim management period activities described in the final management plan shall include fence repair, continuing trash removal, site monitoring, vegetation and invasive species management, and vertical mulching.

Permittee shall either (1) provide Security to CDFW for the minimum of three years of interim management that the land owner, Permittee, or land manager agrees to manage and pay for at their own expense, (2) establish an escrow account with written instructions approved in advance in writing by CDFW to pay the land manager annually in advance, or (3) establish a short-term enhancement account with CDFW or a CDFW-approved entity for payment to the land manager.

8.4. Endowment Fund. If the Permittee elects to provide for the acquisition, permanent protection, and perpetual management of HM lands to complete compensatory mitigation obligations, then the Permittee shall ensure that the HM lands are perpetually managed, maintained, and monitored by the long-term land manager as described in this ITP, the conservation easement, and the final management plan approved by CDFW. After obtaining CDFW approval of the HM lands, Permittee shall provide long-term management funding for the perpetual management of the HM lands by establishing a long-term management fund (Endowment). The Endowment is a sum of money, held in a CDFW-approved fund that is permanently restricted to paying the costs of long-term management and stewardship of the mitigation property for which the funds were set aside, which costs include the perpetual management, maintenance, monitoring, and other activities on the HM lands consistent with this ITP, the conservation easement, and the management plan required by Condition of Approval 9.3.6. Endowment as used in this ITP shall refer to the endowment deposit and all interest, dividends, other earnings, additions and appreciation thereon. The Endowment shall be governed by this ITP, Government Code sections 65965-65968, as amended, and Probate Code sections 18501-18510, as amended.

After the interim management period, Permittee shall ensure that the designated long-term land manager implements the management and monitoring of the HM lands according to

the final management plan. The long-term land manager shall be obligated to manage and monitor the HM lands in perpetuity to preserve their conservation values in accordance with this ITP, the conservation easement, and the final management plan. Such activities shall be funded through the Endowment.

8.4.1. Identify an Endowment Manager. The Endowment shall be held by the Endowment Manager, which shall be either CDFW or another entity qualified pursuant to Government Code sections 65965-65968, as amended.

Permittee shall submit to CDFW a written proposal that includes: (i) the name of the proposed Endowment Manager; (ii) whether the proposed Endowment Manager is a governmental entity, special district, nonprofit organization, community foundation, or congressionally chartered foundation; (iii) whether the proposed Endowment Manager holds the property or an interest in the property for conservation purposes as required by Government Code section 65968(b)(1) or, in the alternative, the basis for finding that the Project qualifies for an exception pursuant to Government Code section 65968(b)(2); and (iv) a copy of the proposed Endowment Manager's certification pursuant to Government Code section 65968(e).

Within thirty days of CDFW's receipt of Permittee's written proposal, CDFW shall inform Permittee in writing if it determines the proposal does not satisfy the requirements of Fish and Game Code section 2081(b)(3) and, if so, shall provide Permittee with a written explanation of the reasons for its determination. If CDFW does not provide Permittee with a written determination within the thirty-day period, the proposal shall be deemed consistent with Section 2081(b)(3).

8.4.2. Calculate the Endowment Funds Deposit. After obtaining CDFW written approval of the HM lands, long-term management plan, and Endowment Manager, Permittee shall prepare an endowment assessment (equivalent to a Property Analysis Record (PAR)) to calculate the amount of funding necessary to ensure the long-term management of the HM lands (Endowment Deposit Amount). Note that the endowment for the easement holder should not be included in this calculation. The Permittee shall submit to CDFW for review and approval the results of the endowment assessment before transferring funds to the Endowment Manager.

8.4.2.1. Capitalization Rate and Fees. Permittee shall obtain the capitalization rate from the selected Endowment Manager for use in calculating the endowment assessment and adjust for any additional administrative, periodic, or annual fees.

8.4.2.2. Endowment Buffers/Assumptions. Permittee shall include in the endowment assessment assumptions the following buffers for endowment establishment and

use that will substantially ensure long-term viability and security of the Endowment:

8.4.2.2.1. 10 Percent Contingency. A 10 percent contingency shall be added to each endowment calculation to hedge against underestimation of the fund, unanticipated expenditures, inflation, or catastrophic events.

8.4.2.2.2. Three Years Delayed Spending. The endowment shall be established assuming spending will not occur for the first three years after full funding.

8.4.2.2.3. Non-annualized Expenses. For all large capital expenses to occur periodically but not annually such as fence replacement or well replacement, payments shall be withheld from the annual disbursement until the year of anticipated need or upon request to Endowment Manager and CDFW.

8.4.3. Transfer Long-term Endowment Funds. Permittee shall transfer the long-term endowment funds to the Endowment Manager upon CDFW approval of the Endowment Deposit Amount identified above.

8.4.4. Management of the Endowment. The approved Endowment Manager may pool the Endowment with other endowments for the operation, management, and protection of HM lands for local populations of the Covered Species but shall maintain separate accounting for each Endowment. The Endowment Manager shall, at all times, hold and manage the Endowment in compliance with this ITP, Government Code sections 65965-65968, as amended, and Probate Code sections 18501-18510, as amended.

Notwithstanding Probate Code sections 18501-18510, the Endowment Manager shall not make any disbursement from the Endowment that will result in expenditure of any portion of the principal of the endowment without the prior written approval of CDFW in its sole discretion. Permittee shall ensure that this requirement is included in any agreement of any kind governing the holding, investment, management, and/or disbursement of the Endowment funds.

Notwithstanding Probate Code sections 18501-18510, if CDFW determines in its sole discretion that an expenditure needs to be made from the Endowment to preserve the conservation values of the HM lands, the Endowment Manager shall process that expenditure in accordance with directions from CDFW. The Endowment Manager shall not be liable for any shortfall in the Endowment resulting from CDFW's decision to make such an expenditure.

8.5. Reimburse CDFW. Permittee shall reimburse CDFW for all reasonable costs incurred by CDFW related to issuance and monitoring of this ITP, including, but not limited to transaction fees, account set-up fees, administrative fees, title and documentation review and related title transactions, costs incurred from other state agency reviews, and overhead related to transfer of HM lands to CDFW.

9. Security: The Permittee may proceed with Covered Activities only after the Permittee has ensured funding (Security) to complete any activity required by Condition of Approval 8 that has not been completed before Covered Activities begin for each compensatory mitigation period. Permittee shall provide Security as follows:

9.1. Security Amount. The Security shall be in the amount of **$1,465,940.00** or in the amount identified in 8.1 specific to the obligation that has not been completed for Compensatory Mitigation Period 1. This amount is determined by CDFW based on the cost estimates identified in Condition of Approval 8.1 above, sufficient for CDFW or its contractors to complete land acquisition, property enhancement, startup costs, initial management, long-term management, and monitoring for the first year of this ITP term. The Security for each subsequent compensatory mitigation period specific to the mitigation obligation that has not been completed shall be requested from CDFW by the Permittee no later than 150 days prior to the start of the next compensatory mitigation period. CDFW shall calculate the Security cost based on fair market value and consideration of inflation for per acre costs. CDFW shall provide the Permittee a Security amount based on the estimated cost of HM lands or Covered Species conservation bank credits, whichever cost is greater.

9.2. Security Form. The Security for each compensatory mitigation period shall be in the form of an irrevocable letter of credit (see Attachment 4) or another form of Security approved in advance in writing by CDFW's Office of the General Counsel.

9.3. Security Timeline. The Security shall be provided to CDFW for Compensatory Mitigation Period 1 before Covered Activities begin or within 30 days after the effective date of this ITP, whichever occurs first. The Security for subsequent compensatory mitigation periods shall be provided before Covered Activities begin for that period.

9.4. Security Holder. The Security shall be held by CDFW or in a manner approved in advance in writing by CDFW.

9.5. Security Transmittal. Permittee shall transmit it to CDFW with a completed Mitigation Payment Transmittal Form (see Attachment 5) or by way of an approved instrument such as an escrow agreement, irrevocable letter of credit, or other.

9.6. Security Drawing. The Security shall allow CDFW to draw on the principal sum if CDFW, in its sole discretion, determines that the Permittee has failed to comply with the Conditions of

Approval of this ITP.

9.7. Security Release. The Security (or any portion of the Security then remaining) shall be released to the Permittee after CDFW has conducted an on-site inspection (if HM lands are acquired) and received confirmation that all secured requirements have been satisfied for each compensatory mitigation period, as evidenced by:

Credit Purchase

- Copy of Bill of Sale(s) and Payment Receipt(s) or Credit Transfer Agreement for the purchase of Covered Species credits for the total amount of required compensatory mitigation, OR partial amount that in combination with HM lands, totals the amount of acres of compensatory mitigation required for that compensatory mitigation period; and
- Timely submission of all required reports.

Habitat Management Land Acquisition (HMLA)

- Written documentation of the acquisition of the HM lands, in which the total acreage within the conservation easement equals the amount of required acres of compensatory mitigation, OR partial amount that in combination with a Credit Purchase, totals the amount of acres of compensatory mitigation required for that compensatory mitigation period;
- Copies of all executed and recorded conservation easements;
- Written confirmation from the approved Endowment Manager of its receipt of the full Endowment; and
- Timely submission of all required reports.

Even if Security is provided, the Permittee must complete the required acquisition, protection and transfer of all HM lands and record any required conservation easements no later than 18 months from the start of each compensatory mitigation period. CDFW may require the Permittee to provide additional HM lands and/or additional funding to ensure the impacts of the taking are minimized and fully mitigated, as required by law, if the Permittee does not complete these requirements within the specified timeframe.

IX. Amendment:

This ITP may be amended as provided by California Code of Regulations, Title 14, section 783.6, subdivision (c), and other applicable law. This ITP may be amended without the concurrence of the Permittee as required by law, including if CDFW determines that continued implementation of the Project as authorized under this ITP would jeopardize the continued existence of the Covered Species or where Project changes or changed biological conditions necessitate an ITP amendment to ensure

that all Project-related impacts of the taking to the Covered Species are minimized and fully mitigated.

X. Stop-Work Order:
If CDFW determines the Permittee has violated any term or condition of this ITP or has engaged in unlawful take, CDFW may issue Permittee a written stop-work order instructing the Permittee to suspend any Covered Activity for an initial period of up to 30 days or risk suspension or revocation of this ITP. CDFW can issue a stop-work order to prevent or remedy a violation of this ITP, including but not limited to the failure to comply with reporting or monitoring obligations, or to prevent the unauthorized take of any CESA endangered, threatened, or candidate species, regardless of whether that species is a Covered Species under this ITP. Permittee shall stop work immediately as directed by CDFW upon receipt of any such stop-work order. Upon written notice to Permittee, CDFW may extend any stop-work order issued to Permittee for a period not to exceed 30 additional days.

If Permittee fails to remedy the violation or to comply with a stop-work order, CDFW may proceed with suspension and revocation of this ITP. Suspension and revocation of this ITP shall be governed by California Code of Regulations, Title 14, section 783.7, and any other applicable law. Neither the Authorized Biologist nor CDFW shall be liable for any costs incurred in complying with stop-work orders.

XI. Compliance with Other Laws:
This ITP sets forth CDFW's requirements for the Permittee to implement the Project pursuant to CESA. This ITP does not necessarily create an entitlement to proceed with the Project. Permittee is responsible for complying with all other applicable federal, state, and local law.

XII. Notices:
The Permittee shall sign and return this ITP to CDFW. A manual or digital signature is acceptable, provided a digital signature complies with Government Code section 16.5. Digital signatures facilitated by CDFW will be automatically returned. Manual (wet) signatures on duplicate original paper copies shall be returned by the Permittee via registered first-class mail or overnight delivery to the following address:

Habitat Conservation Planning Branch
California Department of Fish and Wildlife
Attention: CESA Permitting Program
Post Office Box 944209
Sacramento, CA 94244-2090

Written notices, reports and other communications relating to this ITP shall be delivered to CDFW by email or registered first class mail at the following address, or at addresses CDFW may subsequently provide the Permittee. Notices, reports, and other communications shall reference the Project name, Permittee, and ITP Number (2081-2015-046-06) in a cover letter and on any other associated

documents.

Original cover with attachment(s) to:

Heidi Calvert, Regional Manager
California Department of Fish and Wildlife
3602 Inland Empire Boulevard, Suite C-220
Ontario, CA 91764
Telephone (909) 484-0523
Heidi.Calvert@Wildlife.ca.gov

and a copy to:

Habitat Conservation Planning Branch
California Department of Fish and Wildlife
Attention: CESA Permitting Program
Post Office Box 944209
Sacramento, CA 94244-2090
CESA@Wildlife.ca.gov

Unless Permittee is notified otherwise, CDFW's Regional Representative for purposes of addressing issues that arise during implementation of this ITP is:

Ashley Rosales
Senior Environmental Scientist (Specialist)
3602 Inland Empire Blvd., Suite C-220
Ontario, CA 91764
Telephone (760) 219-9452
Ashley.Rosales@Wildlife.ca.gov

XIII. Compliance with the California Environmental Quality Act:

CDFW's issuance of this ITP constitutes the approval of a discretionary project subject to CEQA. (Pub. Resources Code, § 21080, subd. (a).) CDFW complied with CEQA prior to approving the ITP as a lead agency, with preparation and certification of an environmental impact report (EIR) (SCH No. 2021030571). (Id., § 21067; CEQA Guidelines, § 15367; see also Cal. Code Regs., tit. 14, §§ 783.3, subd. (b), 783.5, subd. (d).) CDFW approved the Project as CEQA lead agency January 17, 2023. CDFW certified the Final EIR as part of that approval and adopted Findings of Fact (Findings) and a Mitigation Monitoring and Reporting Program (MMRP) as required by CEQA. (Pub. Resources Code, §§ 21081, 21081.6; CEQA Guidelines, §§ 15090-15092.). With approval, CDFW filed a Notice of Determination (NOD) with the State Clearinghouse at the Governor's Office of Planning and Research (OPR), and with the Secretary for the California Natural Resources Agency, including in both instances with a receipt from the Permittee documenting payment of the CEQA environmental filing fee

required by Fish and Game Code section 711.4. (Pub. Resources Code, § 21108, subd. (a); CEQA Guidelines, § 15094; Cal. Code Regs., tit. 14, § 783.5, subd. (d)(6); see also Pub. Resources Code, § 21089, subd. (b).) The Final EIR and CDFW's Findings, MMRP, NOD, and other documents related to the Project are available to the public at the CDFW Inland Deserts Regional Office.

XIV. Findings Pursuant to CESA:

These findings are intended to document CDFW's compliance with the specific findings requirements set forth in CESA and related regulations. (Fish & G. Code § 2081, subs. (b)-(c); Cal. Code Regs., tit. 14, §§ 783.4, subds, (a)-(b), 783.5, subd. (c)(2).)

CDFW finds based on substantial evidence in the ITP application, Incidental Take Permit and Potential Lake and Streambed Alteration Agreements for Pacific Gas and Electric Company's Southern California Desert Gas Pipeline Operation and Maintenance Activities Environmental Impact Report, and the administrative record of proceedings, that issuance of this ITP complies and is consistent with the criteria governing the issuance of ITPs pursuant to CESA:

(1) Take of Covered Species as defined in this ITP will be incidental to the otherwise lawful activities covered under this ITP;

(2) Impacts of the taking on Covered Species will be minimized and fully mitigated through the implementation of measures required by this ITP and as described in the MMRP. Measures include: (1) permanent habitat protection; (2) establishment of avoidance zones; (3) worker education; and (4) Quarterly Compliance Reports. CDFW evaluated factors including an assessment of the importance of the habitat in the Project Area, the extent to which the Covered Activities will impact the habitat, and CDFW's estimate of the acreage required to provide for adequate compensation. Based on this evaluation, CDFW determined that the protection and management in perpetuity of approximately 2,580 to 6,450 acres (dependent upon the location and acreage of actual impact associated with Covered Activities during the 30-year term of this ITP) of compensatory habitat that is contiguous with other protected Covered Species habitat and/or is of higher quality than the habitat being destroyed by the Project, along with the minimization, monitoring, reporting, and funding requirements of this ITP minimizes and fully mitigates the impacts of the taking caused by the Project;

(3) The take avoidance and mitigation measures required pursuant to the conditions of this ITP and its attachments are roughly proportional in extent to the impacts of the taking authorized by this ITP;

(4) The measures required by this ITP maintain Permittee's objectives to the greatest extent possible;

(5) All required measures are capable of successful implementation;

(6) This ITP is consistent with any regulations adopted pursuant to Fish and Game Code sections 2112 and 2114;

(7) Permittee has ensured adequate funding to implement the measures required by this ITP as well as for monitoring compliance with, and the effectiveness of, those measures for the Project; and

(8) Issuance of this ITP will not jeopardize the continued existence of the Covered Species based on the best scientific and other information reasonably available, and this finding includes consideration of the species' capability to survive and reproduce, and any adverse impacts of the taking on those abilities in light of (1) known population trends; (2) known threats to the species; and (3) reasonably foreseeable impacts on the species from other related projects and activities. Moreover, CDFW's finding is based, in part, on CDFW's express authority to amend the terms and conditions of this ITP without concurrence of the Permittee as necessary to avoid jeopardy and as required by law.

XV. Attachments:

FIGURE 1	Map of Project Area
ATTACHMENT 1	Mitigation Monitoring and Reporting Program
ATTACHMENT 2	Desert Tortoise Biologist Resume Form
ATTACHMENT 3	Biologist Resume Form
ATTACHMENT 4	Letter of Credit Form
ATTACHMENT 5	Mitigation Payment Transmittal Form

ISSUED BY THE CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE ON 1/17/2023

DocuSigned by:
Heidi Calvert
CAEE4779B63E4A3...

Heidi Calvert, Regional Manager
Inland Deserts Region

ACKNOWLEDGMENT

The undersigned: (1) warrants that he or she is acting as a duly authorized representative of the Permittee, (2) acknowledges receipt of this ITP, and (3) agrees on behalf of the Permittee to comply with all terms and conditions.

DocuSigned by:

By: A11D45EE91BA48E... Date: 1/17/2023

Printed Name: Jon Wilcox Title: 1/17/2023