

Attachment E
Pacific Gas and Electric Company
Gas Pipeline 303 In-Line Inspection and Repair Project
Mitigation Monitoring and Reporting Plan

This Attachment E to the Water Quality Certification appears as Attachment D to the Project Mitigated Negative Declaration/Initial Study (MND/IS). This Attachment E is a copy of Attachment D to the MND/IS.

PG&E Gas Line 303 In-Line Inspection and Repair Project Mitigation Monitoring and Reporting Plan

(Revised Dec. 9, 2010 to correct minor omissions in Table A-2)

1.0 Introduction

Authority and Purpose of the Program

The State Water Resources Control Board (State Water Board) Initial Study/ Mitigated Negative Declaration (IS/MND) for the PG&E Gas Line 303 In-Line Inspection and Repair Project (Project) includes a series of mitigation and avoidance and protection measures intended to minimize potential environmental impacts during project construction and restoration activities. Consistent with the California Environmental Quality Act (CEQA) and State Water Board requirements these measures are incorporated into a Mitigation Monitoring and Reporting Plan (MMRP). This Attachment is intended to comply with these requirements.

The purpose of this MMRP is to document how the mitigation measures adopted by the State Water Board are implemented, and to document that potential environmental impacts are reduced to less than significant levels as identified in the Mitigated Negative Declaration (MND). In addition, the MMRP includes PG&E avoidance and protection measures (APMs), which are incorporated into the PG&E project description.

As the CEQA lead agency, the State Water Board is required to monitor construction and restoration of the Project area to confirm implementation of mitigation and applicant-proposed avoidance and protection measures. In addition, the State Water Board is responsible for ensuring compliance with the MMRP. As appropriate, State Water Board will delegate duties and responsibilities for monitoring to other qualified entities or consultants hired by PG&E to implement the measures.

Program Adoption Process

As part of the adoption of the IS/MND, the State Water Board will confirm that this MMRP complies with CEQA Guidelines Section 15074(d), which mandates the preparation of monitoring provisions for implementation of mitigation assigned as part of project approval or adoption. As the CEQA lead agency for this Project, the State Water Board intends to adopt this MMRP concurrent with the adoption of the IS/MND.

Organization of the MMRP

This MMRP contains three sections. Section 1.0 provides information about the purpose of the MMRP and the agencies with permitting authority over the Project. Section 2.0 specifies roles and responsibilities of the parties or agencies responsible for the implementing the MMRP. Section 3.0 identifies implementation and monitoring procedures.

2.0 Roles and Responsibilities

Mitigation Implementation

Ensuring implementation of measures assigned to mitigate impacts associated with the Project is the State Water Board's responsibility; however, this responsibility will be delegated to PG&E or its designated representative during construction and restoration activities. Therefore, PG&E will be responsible for ensuring that the Project complies with the MMRP and other permit conditions imposed by other responsible agencies. A list of agencies with jurisdiction over the Project is included in Table A-1.

Table A-1

Agency Authority and Jurisdiction

PG&E Gas Line 303 ILI Repair Project MMRP

Agency	Jurisdiction within Project Area	Contact
USACE	Section 404 and Nationwide Permit 12 (IS/MND Figures 1 through 3).	Christina Cavett Cox, Regulatory Project Manager Department of the Army San Francisco District U.S. Army Corps of Engineers 1455 Market Street San Francisco, CA 94103-1398 (415) 503-6765
USFWS	Endangered Species Act consultation. Addresses potential Project impacts to federally-threatened listed species of the California red-legged frog, California tiger salamander, San Joaquin kit fox, longhorn fairy shrimp, vernal pool fairy shrimp and vernal pool tadpole shrimp. (IS/MND Appendix A, Figures 1 through 3b)	Kim Squires, Endangered Species Program, Sacramento Fish and Wildlife Office 2800 Cottage Way, Rm W-2605 Sacramento, CA 95825-1846 (916) 414-6654
CDFG	Consistency Determination from the California Department of Fish and Game (CDFG). PG&E has requested a Fish and Game Code Section 2080.1 Consistency Determination that the Biological Opinion for the Pacific Gas and Electric Company Gas Line 303ILI Repair Project (Corps File #2009-00143S) adequately mitigates adverse impacts on the San Joaquin kit fox	Marcia Grefsrud, Environmental Scientist California Department of Fish and Game 7329 Silverado Trail Napa, CA 94558 (707) 944-5500
State Water Board	Compliance with Clean Water Act Section 401 and with pertinent provisions of the California Porter-Cologne Water Quality Control Act. The State Water Board also serves as lead agency for CEQA compliance.	Clifford Harvey 401 Certification & Wetlands Unit Division of Water Quality State Water Resources Control Board 1001 I Street, 15th Floor-56C Sacramento, CA 95814 (916) 558-1709

Notes:

USACE = United States Army Corps of Engineers; USFWS = United States Fish and Wildlife Service; CDFG = California Department of Fish and Game; State Water Board= State Water Resources Control Board

Mitigation Monitoring

Implementation and monitoring duties for all Project Mitigation Measures (MMs) will be delegated to PG&E or its designated environmental monitors or consultants. This delegation does not affect the authority of State Water Board staff to monitor mitigation compliance for the project and cause implementation of mitigation measures. As a result, PG&E's monitors/consultants will be delegated

authority by the State Water Board to enforce the MMRP and to authorize any variance or deviation from the procedures, as long as the variance is consistent with CEQA, approved by the State Water Board and USFWS, and does not cause new significant impacts. Any proposed variance that could result in a potentially significant environmental effect will be evaluated to determine whether supplemental CEQA review and additional mitigation measures are needed. In the event of the need for a proposed variance or deviation from the adopted MND or MMRP, the implementation of such deviation shall be reported immediately to the State Water Board and the authorized construction monitor for review and approval.

Under this delegated responsibility, PG&E will designate specific qualified personnel to ensure implementation of mitigation during construction activities. The designated personnel will be responsible for submitting all compliance documentation and reports to PG&E and the State Water Board in a timely manner and preparing required resource agency submittals. These personnel will also be delegated the authority to halt construction activities found to be inconsistent with the MMRP objectives or conditions of approval.

In addition, PG&E will be responsible for demonstrating compliance with other agencies' permit conditions. PG&E and the authorized personnel will ensure that construction contractors understand and adhere to the MMRP performance requirements and other contractual requirements related to the implementation of the MMRP.

Table A-2 provides a summary of the MMRP. It lists each potential environmental impact, the corresponding monitoring activity/plan, implementation and monitoring duration, and the party responsible for ensuring MMRP compliance.

Mitigation Enforcement

In addition to implementation of the MMRP, PG&E is also responsible for enforcing the established performance standards and reporting the success of their implementation to the State Water Board through a mutually agreed-upon reporting program to be specified in permit requirements. The PG&E onsite environmental monitor(s)/consultant(s) will enforce implementation of the MMRP. The monitor will note problems, notify appropriate agencies or individuals about any problems, if required, and report problems to PG&E to inform the State Water Board. If alternative mitigation measures are identified that would be equally effective in mitigating the identified impacts, the implementation of these alternative measures will not occur until confirmation is received from the State Water Board.

The State Water Board has the authority to halt any construction, operation, or maintenance activity associated with the Project if the activity is determined to be a deviation from the approved project or adopted mitigation measures. The State Water Board may assign this authority to the environmental monitor for each construction phase or spread.

Mitigation Compliance

PG&E is responsible for successfully implementing all adopted mitigation measures in the MMRP. Performance standards for successful mitigation are included in each mitigation measure. The standards include requirements for obtaining permits or avoiding a specific impact or area entirely.

Dispute Resolution

Disputes and complaints (including those of the public) will be directed to the State Water Board's designated Project Manager for resolution. The State Water Board Project Manager will attempt to resolve the dispute. In the event that this informal process fails, then the State Water Board Project Manager may initiate an enforcement or compliance action to address deviations from the permitted project and adopted MMRP.

3.0 General Monitoring Procedures

Lead Environmental Monitor

PG&E is responsible for ensuring coordination of mitigation monitoring procedures for the construction and restoration activities with the State Water Board and the authorized environmental monitors/consultants. The lead environmental monitor will oversee implementation of the monitoring procedures, coordinate with each environmental monitor assigned to each construction phase or spread, and be onsite during any project-related activity with the potential to result in a significant impact for which mitigation is required. The environmental monitor is also responsible to ensure that all MMRP procedures are followed.

Identity and contact information for all Environmental Monitors shall be provided to State Water Board staff no later than one week before the date upon which documentation of compliance will be required (e.g., if certain biological surveys must occur two weeks in advance of construction, contact information for the monitors will be provided to the State Water Board staff three weeks in advance of construction.)

Construction Personnel

Many of the mitigation measures require actions by construction personnel to comply with and successfully implement MMRP requirements. Successful implementation of the MMRP will include:

- ✓ Compliance procedures written into contracts between PG&E, authorized monitors/consultants, and construction contractors. Procedures for implementation by construction personnel will be compiled into a separate consent agreement for review and signature by each construction employee.
- ✓ The environmental monitor will conduct regular pre-construction meetings to inform and train all construction personnel about the MMRP requirements.
- ✓ The environmental monitor will prepare concise summaries of MMRP procedures and provide them to construction supervisors for measures requiring their attention.

General Reporting Procedures

Site visits and specified monitoring procedures will be reported by each environmental monitor assigned to the Project. A monitoring record form will be submitted to the environmental monitor by the individual conducting the visit or procedure so that details of the visit can be recorded and progress tracked by the environmental monitor. A checklist will be developed and maintained by the environmental monitor to track all procedures required for each mitigation measure and to ensure adherence to the timing specified for the procedures. The environmental monitor will note any problems that may occur and take appropriate action to rectify the problems. PG&E shall provide the State Water Board with written annual reports of the project, which shall include progress of any

Project-related activity, resulting impacts, mitigation implemented, and all other noteworthy elements of the Project. Annual reports shall be required at least five years or as long as mitigation measures are applicable, which ever is longer.

The reporting requirements will be as follows:

- ✓ At the end of the project, PG&E will provide the State Water Board with a final report on the project activities including the success of the mitigation measures implemented including the revegetation work. Before and after pictures will also be provided.
- ✓ At the end of the first winter after the project completion, PG&E will provide a report that will assess initial revegetation sprouting and the effectiveness of the erosion control measures.
- ✓ Near the end of the spring for the next four years following the completion of the Project, PG&E will perform a site assessment and submit a written report to the State Water Resources Board of its finding including the status of plants growing, the erosion control measures , whether there are any weeds on site, etc.
- ✓ In the event a problem and/or deficiency is identified during any of the above reporting periods, PG&E will consult with the State Water Resources Board on its plan of action to correct the deficiency. PG&E will also provide quarterly reports on the problem/deficiency until it is corrected and stabilized.

Condition Effectiveness Review

As required by CEQA, the State Water Board must evaluate the effectiveness of implemented mitigation measures. In order to fulfill its statutory mandates to mitigate or avoid significant effects on the environment and to design a mitigation monitoring program to ensure compliance during Project implementation (CEQA Section 21081.6):

- ✓ State Water Board may conduct a comprehensive review of conditions or practices that are not effectively mitigating impacts at any time it deems appropriate, consistent with standard State Water Board dispute resolution procedures; and
- ✓ State Water Board may determine that measures are not adequately mitigating environmental impacts, or that recent proven technological advances could provide more effective mitigation.

If this occurs, then the State Water Board may impose additional reasonable conditions to effectively mitigate these impacts.

TABLE A-2
 MMRP Summary
 PG&E Gas Line 303 ILI Repair Project MMRP

Issue Area/Impact	Measure	Implementation Duration		Monitoring Duration		Responsibility ²	
		One-Time	Ongoing	One-Time	Ongoing	Implementation	Monitoring
PG&E Avoidance and Protection Measures¹							
Biological Resources	<p>APM-BIO-1: PG&E will compensate for effects to listed amphibians and vernal pool crustaceans from disturbance of grassland and wetland habitat, with a minimum three to one compensation ratio as detailed below. PG&E shall provide the U.S. Fish and Wildlife Service (USFWS) and the State Water Board with proof of compensation at least twenty (20) work days prior to ground breaking.</p> <p>USFWS has estimated that all California red-legged frogs inhabiting 0.5 acre of suitable habitat will be subject to incidental take in</p>	<p>Prior to construction at least 20 work days prior to ground breaking</p>				<p>PG&E</p>	<p>PG&E, reporting to CDFG, USFWS, State Water Board</p>

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		One-Time	Ongoing	One-Time	Ongoing	Implementation	Monitoring
	<p>the form of harm, harassment, capture, injury and death as a result of the project. PG&E will compensate for effects to listed amphibians and vernal pool crustaceans from disturbance of grassland and wetland habitat, with a minimum three to one compensation ratio.</p> <p>Per the Biological Opinion issued for the project, USFWS has estimated that all longhorn fairy shrimp, vernal pool fairy shrimp, and vernal pool tadpole shrimp inhabiting 0.3 acre of seasonal wetlands will be subject to incidental take as a result of the project. PG&E will compensate for effects to listed amphibians and vernal pool crustaceans from</p>						

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		One-Time	Ongoing	One-Time	Ongoing	Implementation	Monitoring
	disturbance of grassland and wetland habitat, with a minimum three to one compensation ratio.						
	USFWS has estimated that all California Tiger Salamander inhabiting 0.5 acre of suitable habitat will be subject to incidental take in the form of harm, harassment, capture, injury and death as a result of the project. PG&E will compensate for effects to listed amphibians and vernal pool crustaceans from disturbance of grassland and wetland habitat, with a minimum three to one compensation ratio.						

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		One-Time	Ongoing	One-Time	Ongoing	Implementation	Monitoring
Potential impacts to any species identified as a candidate, sensitive, or special status species	APM-BIO-2: PG&E will implement all minimization measures described in USFWS January 26, 1999, <i>Programmatic Formal Endangered Species Act Consultation on the Issuance of Permits under Section 404 of the Clean Water Act or Authorization under the Nationwide Permit Program for Projects that May Affect the California Red-legged Frog (Rana aurora draytonii)</i> (Programmatic Consultation).		During construction		During construction	PG&E	PG&E, reporting to CDFG, USFWS, State Water Board

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Issue Area/Impact	Measure	Implementation Duration		Monitoring Duration		Responsibility ²	
		One-Time	Ongoing	One-Time	Ongoing	Implementation	Monitoring
	<p>APM-BIO-3: PG&E will submit the names and credentials of biologists who are proposed to perform preconstruction surveys and monitoring to USFWS for written approval at least 15 days prior to the commencement of any activities. A USFWS-approved biologist will survey the work sites two weeks before the onset of activities. If California red-legged frogs, tadpoles, or eggs or any life stage of California tiger salamander are found, the approved biologist will contact the USFWS to determine if moving any of these life-stages is appropriate. In making this determination USFWS shall consider if an appropriate relocation site exists. If USFWS approves moving animals, the approved biologist shall be</p>	<p>Prior to construction at least 15 days prior to commencement of any activities</p>			<p>During construction</p>	<p>PG&E</p>	<p>PG&E, reporting to CDFG, USFWS, State Water Board</p>

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Issue Area/Impact	Measure	Implementation Duration		Monitoring Duration		Responsibility ²	
		One-Time	Ongoing	One-Time	Ongoing	Implementation	Monitoring
	<p>allowed sufficient time to move California red-legged frogs and/or California tiger salamander from the sites before work activities begin. Only USFWS-approved biologists will participate in activities associated with the capture, handling, and monitoring of these species. If a California red-legged frog and/or California tiger salamander is found nearby, but outside a site, it will not be disturbed and USFWS will be notified. The biologist will also report any observations of vernal pool fairy shrimp, long horn fairy shrimp, vernal pool tadpole shrimp, and San Joaquin kit fox.</p>						
	<p>APM-BIO-4: Before any construction activities begin on the project, a USFWS-approved biologist will conduct a training session</p>	Prior to construction		Prior to construction		PG&E	PG&E, reporting to CDFG, USFWS, State Water

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Issue Area/Impact	Measure	Implementation Duration		Monitoring Duration		Responsibility ²	
		One-Time	Ongoing	One-Time	Ongoing	Implementation	Monitoring
	for all construction personnel. The training will include a description of the listed species with the potential to occur, their habitat, and the general measures that are being implemented to conserve the species as they relate to the project and the boundaries within which the project may accomplished (i.e. sites).						Board
	APM-BIO-5: A USFWS-approved biologist will be present on the work site until all minimization and avoidance measures have been completed. After this time, a biological monitor, who has been trained per Conservation Measure 3 of the Biological Opinion, will remain on site during all construction activities, and will have the authority to halt any work activity that might result in impacts that		During construction		During construction	PG&E	PG&E, reporting to CDFG, USFWS, State Water Board

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Issue Area/Impact	Measure	Implementation Duration		Monitoring Duration		Responsibility ²	
		One-Time	Ongoing	One-Time	Ongoing	Implementation	Monitoring
	exceed the levels anticipated by the Corps, USFWS, and the CDFG during review of the proposed action. If work is stopped, the Corps, USFWS, and CDFG will be notified immediately by the USFWS-approved biologist or on-site monitor.						
	APM-BIO-6: During project activities, all trash, including that which may attract predators, will be properly contained, removed from the sites, and disposed of on a daily basis. Following construction, all trash and construction debris from sites will be removed.		During construction		During construction	PG&E	PG&E, reporting to State Water Board
	APM-BIO-7: All fueling and maintenance of vehicles and other equipment and staging areas will occur at least 66 feet from any riparian habitat or water	Prior to start of construction	During construction		During construction	PG&E	PG&E, reporting to State Water Board

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Issue Area/Impact	Measure	Implementation Duration		Monitoring Duration		Responsibility ²	
		One-Time	Ongoing	One-Time	Ongoing	Implementation	Monitoring
	body. PG&E will ensure contamination of habitat does not occur during such operations. Prior to the start of construction, PG&E will prepare a plan to ensure a prompt and effective response to any accidental spills. All workers will be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur.						
	APM-BIO-8: A USFWS- and State Water Board approved biologist will ensure that the spread or introduction of invasive plant species will be avoided to the maximum extent possible. When practical, invasive exotic plants in the project area will be removed.		During construction		During construction	PG&E	PG&E, reporting to CDFG, USFWS, State Water Board

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Issue Area/Impact	Measure	Implementation Duration		Monitoring Duration		Responsibility ²	
		One-Time	Ongoing	One-Time	Ongoing	Implementation	Monitoring
	APM-BIO-9: Project areas that are disturbed will be revegetated with an appropriate wetland or upland vegetation native seed mix. Appropriate mulch or other surface protection will be applied as needed. For all areas to be excavated topsoil will be stripped, stockpiled separately, and replaced at the end of the backfilling process. Impermeable clay layers in the vicinity of vernal pools, if encountered, should be stockpiled separately and replaced to avoid or minimize potential indirect effects to the hydrology of local vernal pool complexes.	Restoration at the conclusion of construction			Annual reporting for five years as described in General Reporting Procedures section of this MMRP	PG&E	PG&E, reporting to State Water Board
	APM-BIO-10: The number of access routes, number and size of staging areas, and the total area of the		During construction		During construction	PG&E	PG&E, reporting to State Water Board

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Issue Area/Impact	Measure	Implementation Duration		Monitoring Duration		Responsibility ²	
		One-Time	Ongoing	One-Time	Ongoing	Implementation	Monitoring
	<p>activity will be limited to the minimum necessary to achieve the project goal. Routes and boundaries will be clearly demarcated, and these areas will be outside of riparian and wetland areas to the extent feasible. For the work in Site 3 where a seasonal wetland cannot be avoided, the 50 x 50 foot area will be delineated by fencing to limit impacts to adjacent wetland habitat. Restoration will be performed where impacts occur in staging areas and access routes.</p>						
	<p>APM-BIO-11: Work activities will be completed between April 1 and November 1. Should the proponent or applicant demonstrate a need to conduct activities outside this period, the Corps may</p>		During construction		During construction	PG&E	PG&E, reporting to CDFG, USFWS, State Water Board

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		One-Time	Ongoing	One-Time	Ongoing	Implementation	Monitoring
	authorize such activities after obtaining USFWS approval.						
	APM-BIO-12: PG&E will implement best management practices (BMPs) to control erosion during and after project implementation.		During construction		During construction	PG&E	PG&E, reporting to CDFG, USFWS, State Water Board
	APM-BIO-13: A USFWS-approved biologist will permanently remove any individuals of exotic species, such as bullfrogs, crayfish, and centrarchid fishes from within the project area to the maximum extent possible.		During construction		During construction	PG&E	PG&E, reporting to CDFG, USFWS, State Water Board

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Issue Area/Impact	Measure	Implementation Duration		Monitoring Duration		Responsibility ²	
		One-Time	Ongoing	One-Time	Ongoing	Implementation	Monitoring
	APM-BIO-14: A preconstruction nesting bird survey will be conducted for burrowing owls and other special status birds. If active nests are found, buffers will be established to avoid impact to these species. If adequate buffers cannot be established, construction work will be delayed until after the breeding season is fully completed or CDFG will be contacted to determine further action.	Prior to construction		Prior to construction		PG&E	PG&E, reporting to CDFG, USFWS, State Water Board
	APM-BIO-15: A preconstruction survey for San Joaquin kit fox will be performed 14 to 30 days prior to the beginning of ground disturbance. Surveys will follow guidance described in USFWS's 1999 Standardized Recommendations for	Prior to construction		Prior to construction		PG&E,	PG&E, reporting to CDFG, USFWS, State Water Board

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Issue Area/Impact	Measure	Implementation Duration		Monitoring Duration		Responsibility ²	
		One-Time	Ongoing	One-Time	Ongoing	Implementation	Monitoring
	Protection of the San Joaquin kit fox prior to or during ground disturbance.						
	APM-BIO-16: Project-related vehicles should observe a 20 mph speed limit in all project areas, except on county roads and State and Federal highways, particularly at night when San Joaquin kit foxes are most active. To the extent possible, nighttime construction should be minimized. Off-road traffic outside of designated project areas is prohibited.	Prior to construction at least 14 days prior to ground disturbance		Prior to construction		PG&E	PG&E, reporting to CDFG, USFWS, State Water Board

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		One-Time	Ongoing	One-Time	Ongoing	Implementation	Monitoring
	<p>APM-BIO-17: To prevent inadvertent entrapment of San Joaquin kit foxes, California red-legged frogs or California Tiger salamanders during the construction phase of the project, all excavated, steep-walled holes or trenches more than 2 feet deep should be covered at the close of each working day by plywood or similar materials, or one or more escape ramps constructed of earth fill or wooden planks will be provided. Before such holes or trenches are filled, they should be thoroughly inspected for trapped animals. If at any time a trapped or injured kit fox is discovered, USFWS and CDFG will be notified immediately.</p>		During construction		During construction	PG&E	PG&E, reporting to CDFG, USFWS, State Water Board

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		One-Time	Ongoing	One-Time	Ongoing	Implementation	Monitoring
	<p>APM-BIO-18: San Joaquin kit foxes, California red-legged frogs, or California tiger salamanders are attracted to den-like structures such as pipes and may enter stored pipe becoming trapped or injured. All construction pipes, culverts, or similar structures with a diameter of 4-inches or greater that are stored at a construction site for one or more overnight periods should be thoroughly inspected for these species before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If a San Joaquin kit fox is discovered inside a pipe, that section of pipe should not be moved until USFWS has been consulted. If necessary, and under the direct supervision of the biologist, the pipe may be</p>		During construction		During construction	PG&E	PG&E, reporting to CDFG, USFWS, State Water Board

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		One-Time	Ongoing	One-Time	Ongoing	Implementation	Monitoring
	moved once to remove it from the path of construction activity, until the fox has escaped.						
	APM-BIO-19: To prevent harassment, mortality, or destruction of dens of San Joaquin kit foxes, California red-legged frog and/or California tiger salamander, no dogs, cats, or other pets shall be permitted on project sites.		During construction		During construction	PG&E	PG&E, reporting to CDFG, USFWS, State Water Board
	APM-BIO-20: Steel plates or other equivalent protective measures as approved by the State Water Board, CDFG, and USFWS will be installed across the alkali swale which is crossed by the access route to Site 3, to avoid disturbance to the seasonal wetland and		During construction		During construction	PG&E	PG&E, reporting to CDFG, USFWS, State Water Board

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		One-Time	Ongoing	One-Time	Ongoing	Implementation	Monitoring
	swale at that site.						
	APM-BIO-21: All excavated material shall be stored in the designated work areas.		During construction		During construction	PG&E	PG&E, reporting to State Water Board
	APM-BIO-22: Erosion control matting containing plastic mono-filament netting or similar material containing netting shall not be used at the project site because California red-legged frogs, California tiger salamanders, and San Joaquin kit foxes may become entangled or trapped in it. Acceptable substitutes include coconut coir matting, tackified hydroseeding compounds, or other materials as approved by USFWS and the State Water Board.		During construction		During construction	PG&E	PG&E, reporting to CDFG, USFWS, State Water Board

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		One-Time	Ongoing	One-Time	Ongoing	Implementation	Monitoring
	APM-BIO-23: All construction activity shall be confined within the Gas Line 303 ILI Repair Project site, which includes temporary access routes and work areas specifically designated and marked for these purposes. At no time shall equipment or personnel be allowed to adversely affect areas outside the project site without authorization from USFWS and the State Water Board.		During construction		During construction	PG&E	PG&E, reporting to CDFG, USFWS, State Water Board

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		One-Time	Ongoing	One-Time	Ongoing	Implementation	Monitoring
	<p>APM-BIO-24: The Gas Line 303 ILI Repair Project construction area shall be delineated with high visibility temporary fencing at least (4) feet in height, flagging, or other barriers to prevent encroachment of construction personnel and equipment onto any sensitive areas during project work activities. Such fencing shall be inspected and maintained daily until completion of the project. The fencing will be removed only when all construction equipment is removed from the site. Actions within the project area shall be limited to vehicle and equipment operation on existing roads, and designated access routes. No project activities will occur outside the delineated project construction area.</p>		During construction		During construction	PG&E	PG&E, reporting to State Water Board

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		One-Time	Ongoing	One-Time	Ongoing	Implementation	Monitoring
	APM-BIO-25: Silt fencing will be used as needed in conjunction with the high visibility fencing to prevent soil and debris from entering sensitive areas. Such fencing shall be inspected and maintained daily until completion of the project. The fencing will be removed only when all construction equipment is removed from the site.		During construction		During construction	PG&E	PG&E, reporting to CDFG, USFWS, State Water Board

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Issue Area/Impact	Measure	Implementation Duration		Monitoring Duration		Responsibility ²	
		One-Time	Ongoing	One-Time	Ongoing	Implementation	Monitoring
	APM-BIO-26: Twenty-four (24) hours prior to any ground disturbance, pre-construction surveys shall be conducted for San Joaquin kit foxes, California tiger salamanders, California red-legged frogs, vernal pool crustaceans, and sensitive plants. These surveys will consist of walking surveys of the project limits and adjacent areas accessible to the public to determine presence of the species.	Prior to construction at least 24 hours before any ground disturbance		Prior to construction		PG&E	PG&E, reporting to CDFG, USFWS, State Water Board
	APM-BIO-27: The project area shall be re-inspected by the monitoring biologist whenever a lapse in construction activity of two weeks or greater has occurred.		During construction		During construction	PG&E	PG&E, reporting to CDFG, USFWS, State Water Board Board
	APM-BIO-28: Excavations shall be inspected in the		During		During	PG&E	PG&E,

TABLE A-2
 MMRP Summary
 PG&E Gas Line 303 ILI Repair Project MMRP

Issue Area/Impact	Measure	Implementation Duration		Monitoring Duration		Responsibility ²	
		One-Time	Ongoing	One-Time	Ongoing	Implementation	Monitoring
	morning before construction work starts to ensure that animals have not fallen in the trench or hold.		construction		construction		reporting to CDFG, USFWS, State Water Board
	APM-BIO-29: Only a USFWS- approved biologist will be allowed to trap or capture California tiger salamanders and/or California red-legged frogs.		During construction		During construction	PG&E	PG&E, reporting to CDFG, USFWS, State Water Board
	APM-BIO-30: If requested, during or upon completion of construction activities, the on-site biologist, and/or representative from PG&E shall accompany State Water Board, USFWS, CDFG, and/or Corps personnel on an on site inspection of the site to review project effects on the San Joaquin kit fox, California red-legged frog, California tiger salamander, and/or vernal pool		During construction		During construction	PG&E	PG&E, reporting to CDFG, USFWS, State Water Board

TABLE A-2
 MMRP Summary
PG&E Gas Line 303 ILI Repair Project MMRP

Issue Area/Impact	Measure	Implementation Duration		Monitoring Duration		Responsibility ²	
		One-Time	Ongoing	One-Time	Ongoing	Implementation	Monitoring
	crustaceans and their habitats.						
	APM-BIO-31: The State Water Board shall ensure that PG&E complies with the Reporting Requirements of this biological opinion.		Before, During and at least 5 years following construction		Before, During and at least 5 years following construction	PG&E	PG&E, reporting to State Water Board, Corps & USFWS
	APM-BIO-32: PG&E shall make the terms and conditions of the biological opinion a required term in all contracts for the project that are issued by them to all contractors.		During construction		During construction	PG&E	PG&E, reporting to CDFG, USFWS, State Water Board
	APM-BIO-33: PG&E shall provide the Resident Engineer or their designee		During construction		During construction	PG&E	PG&E, reporting to CDFG,

TABLE A-2
 MMRP Summary
PG&E Gas Line 303 ILI Repair Project MMRP

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		One-Time	Ongoing	One-Time	Ongoing	Implementation	Monitoring
	with a copy of the biological opinion, and the Resident Engineer or their designee shall be responsible for implementing the conservation measures and Terms and Conditions of the biological opinion and shall be the point of contact for the project. The Resident Engineer or their designee shall maintain a copy of the biological opinion on-site whenever construction is taking place.						USFWS, State Water Board Board
	APM-BIO-34: The name and full contact information of the Resident Engineer shall be provided to the State Water Board and USFWS at least thirty (30) calendar days prior to groundbreaking at the project. Prior to ground breaking, the Resident Engineer must submit a letter to the State Water	At least 30 days prior to construction				PG&E	PG&E, reporting to State Water Board

TABLE A-2
 MMRP Summary
PG&E Gas Line 303 ILI Repair Project MMRP

Issue Area/Impact	Measure	Implementation Duration		Monitoring Duration		Responsibility ²	
		One-Time	Ongoing	One-Time	Ongoing	Implementation	Monitoring
	Boards and USFWS verifying that they possess a copy of the biological opinion and have read the Terms and Conditions.						
	APM-BIO-35: The PG&E on-site monitor shall have oversight over implementation of all the Terms and Conditions of the biological opinion, and shall have the authority to stop project activities, through communication with the Resident Engineer, if any of the requirements associated with these Terms and Conditions are not being fulfilled. If the biologist/construction liaison has requested a stop work due to take of any of the listed species, the USFWS and CDFG will be notified within one (1) working day via email or		During construction		During construction	PG&E, reporting to CDFG, USFWS, State Water Board	PG&E, reporting to CDFG, USFWS, State Water Board

TABLE A-2
 MMRP Summary
 PG&E Gas Line 303 ILI Repair Project MMRP

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		One-Time	Ongoing	One-Time	Ongoing	Implementation	Monitoring
	telephone.						
	APM-BIO-36: PG&E will compensate for possible take for San Joaquin kit fox habitat to meet CDFG full mitigation requirements for offsite compensation, on a one to one ratio or other ratio approved by CDFG and USFWS as required.	Before Construction				PG&E, reporting to CDFG, USFWS, State Water Board	
Cultural Resources							
Possible impacts to previously unidentified archaeological resources that could be encountered during Project-related ground-disturbing activities	APM-CULT-1: Should previously unidentified archeological resources (e.g., metal, glass, ceramic refuse, privies, wells, etc.) or human remains be encountered during construction, work within the immediate vicinity of the find will stop until such time that a qualified archaeologist can evaluate		During construction		During construction	PG&E	PG&E, reporting to State Water Board

TABLE A-2
 MMRP Summary
 PG&E Gas Line 303 ILI Repair Project MMRP

Issue Area/Impact	Measure	Implementation Duration		Monitoring Duration		Responsibility ²	
		One-Time	Ongoing	One-Time	Ongoing	Implementation	Monitoring
	the find and make appropriate recommendations for mitigation, if warranted. If the find includes bones or any other human remains, the County Coroner will immediately be notified. At the same time a qualified archaeologist should be contacted to evaluate the discovery. If the human remains are of Native American origin, the Coroner must notify the Native American Heritage Commission within 48 hours of this identification.						
Possible impacts to previously unidentified paleontological resources that could be encountered during Project-	APM-CULT-2: In the event that previously unidentified fossil remains are encountered during project construction, a qualified paleontological specialist will be contacted. Construction within the		During construction		During construction	PG&E	PG&E, reporting to State Water Board

TABLE A-2
 MMRP Summary
PG&E Gas Line 303 ILI Repair Project MMRP

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		One-Time	Ongoing	One-Time	Ongoing	Implementation	Monitoring
related ground-disturbing activities	immediate vicinity of the find will be temporarily halted or diverted until a qualified vertebrate paleontologist examines the discovery. If the find is potentially significant, the paleontologist will contact the appropriate agencies or educational institutions to determine procedures for salvage and disposition of the fossils that should be followed before construction is allowed to resume at the location of the find.						
Potential impacts related to the unanticipated discovery of human remains	APM-CULT-3: If human remains of Native American origin are found, the Coroner must notify the Native American Heritage Commission within 48 hours of this identification.		During construction		During construction	PG&E	PG&E, reporting to State Water Board

TABLE A-2
 MMRP Summary
PG&E Gas Line 303 ILI Repair Project MMRP

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Greenhouse Gases Emissions							
Temporary construction-related GHG/CO ₂ emissions	APM-GHG-1: Encourage the use of bio-diesel fuel for diesel-powered equipment and vehicles.		During construction		During construction	PG&E	
	APM-GHG-2: Encourage construction workers to carpool.		During construction		During construction	PG&E	
	APM-GHG-3: Encourage the recycling of construction waste.		During construction		During construction	PG&E	
	APM-GHG4: Idling of construction vehicles will be kept to the minimum required to perform the work. Unnecessary engine		During construction		During construction	PG&E	

TABLE A-2
 MMRP Summary
PG&E Gas Line 303 ILI Repair Project MMRP

Issue Area/Impact	Measure	Implementation Duration		Monitoring Duration		Responsibility ²	
		One-Time	Ongoing	One-Time	Ongoing	Implementation	Monitoring
	idling will be discouraged.						

Notes:

¹ **PG&E avoidance and protection measures are included as part of the project description.**

² **PG&E will delegate responsibility to authorized representative.**

State Water Board = State Water Resources Control Board

GHG = greenhouse gases

CO₂ = carbon dioxide

mph = miles per hour

USFWS = United States Fish and Wildlife Service

Corps = United States Army Corps of Engineers

CDFG = California Department of Fish and Game