

A minimum five-year monitoring program with detailed success criteria regarding species cover, species composition, species diversity, wetland area and depth as compared with pre-construction conditions documented prior to construction by a qualified biologist such that the function of the affected wetland and hydrology is fully restored, the methods and results of which shall be described in the Plan. (These measures and the monitoring program below do not apply to work in rice fields or other cropped wetlands, since those will be returned to their agricultural crops.)

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Page 4.4-83, Lines 17-21

Detailed contingency measures in case of restoration failure, as determined by the responsible agencies following the five-year monitoring period, requiring additional off-site wetland creation at a minimum ratio of 2:1 for created wetland acreage or as otherwise determined in the USACE 404 and RWQCB 401 water quality certification.

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Riparian Avoidance and Restoration **Pages 4.4-85 to 4.4-87 (MM BIO-1c)**

PG&E recommends the following modifications to reflect the fencing practices discussed above in BIO-1a, and to clarify that plants used in restoration efforts should be compatible with preconstruction conditions. (Pre-construction conditions may include undesirable non-native species, and therefore matching those conditions will not always be appropriate.)

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Page 4.4-85, lines 5-6

Fencing limits of work where riparian vegetation is adjacent to work areas to prevent impacts

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Page 4.4-85, lines 11-13

Riparian habitat within the ROW shall be identified by a qualified ecologist; mapped on construction plans; and where avoidable, fenced prior to construction/

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Page 4.4-86, lines 31-32

Proposed native tree and shrub species that are compatible with pre-construction conditions.

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Rare Plant Avoidance **Pages 4.4-120 (MM BIO-5)**

PG&E suggests the following modifications to be consistent with the fencing practices discussed above:

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Lines 13-14

~~Flagging, mapping, and fencing to protect any special-status plant species within the 200-foot-wide study area during construction.~~

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Lines 26-31

Any rare plant species within the study area (including the 100 foot-wide right-of-way and a 50 foot-wide buffer zone on each side of the right-of-way, work areas, staging areas, and/or launcher/receiver stations) will be flagged; and accurately mapped on

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construction plans, and fenced along the edge of the construction working limits to protect the area occupied by the species during construction, per APM BIO-3.

↑ S-51
Cont.

Vernal Pools and Swales

Page 4.4-79, lines 25-28

PG&E has committed to avoiding all vernal pools and swales during construction by using HDD or bore crossing methods to install the pipeline under these features, or by narrowing the ROW to avoid these features. Direct surface impacts to vernal pools or swales are not anticipated to result from clearing, grading, or trenching activities. Therefore, PG&E suggests deleting the reference to vernal pools and swales as follows:

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... however, ~~several vernal pools and swales~~ and numerous seasonal wetlands, riparian wetlands, and other jurisdictional water features would be disturbed by trenching during project construction.

Review of Grading Permit

Page 4.4-84, lines 1-3

As PG&E is not required to obtain discretionary local permits, including grading permits, from county agencies, although it is required to obtain ministerial grading permits. Therefore, the referenced language should be modified as follows:

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Prior to construction, responsible agencies (including the RWQCB, CDFG, and USACE, ~~and County agencies~~) shall evaluate soil and grade restoration measures to be implemented along the ROW.

Invasive Species Control Program

Page 4.4-93, lines 19-21 (MM BIO-3)

PG&E agrees and commits to ensuring that vehicles used in pipeline construction off maintained roads will be cleaned prior to being used on the project, and again if taken from the project for use off-road prior to returning to the project. However, the requirements for vehicle steam-cleaning at each county border are impractical and unnecessary. There are no existing steam cleaning stations set up at these borders, nor would it be necessary or helpful to re-clean vehicles for instance at the Sacramento/Yolo County border where similar vegetation and crops are found to either side of the border, and vehicles will be moving continuously along the ROW across that border. Therefore, MM BIO-3 should be modified as follows:

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Prior to Project initiation, all construction equipment shall be ~~steam cleaned before the equipment crosses any county border~~ to remove potential soil and/or water-borne contaminants before the equipment comes onto the Project and again if the equipment is used off-road before returning to the Project.

Typo

Page 4.4-93, lines 33-35

The referenced provision should be modified as follows:

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Weed management procedures will be developed and implemented to monitor and control the spread of ~~week~~ weed populations along the pipeline.

Weed-free Certification

Page 4.4-94, lines 7-9 (MM BIO-3)

In MM BIO-3, the DEIR requires: "Fill material, soil amendments, gravel, etc. required for construction/restoration activities on land shall be obtained from a source that can certify the soil as being 'weed free.'" This mitigation measures is not feasible. There are no existing weed-free certification programs for soil or gravel, other than nursery potting soil. Since fill material will be from on-site re-use of excavated soils, coming from soil stockpiled for a given area, this measure is not needed nor practical, since the existing soils are not weed-free and should therefore be deleted.

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Valley Elderberry Longhorn Beetle

Page 4.4-102, lines 1-7 (MM BIO-4a)

MM BIO-4a identifies mitigation measures to avoid or reduce impacts to the Valley Elderberry Longhorn Beetle. However, because this issue will be addressed in the permit from the U.S. Fish and Wildlife Service, PG&E suggests that the DEIR be modified as follows to allow PG&E and USFWS to determine the exact buffer zones that will be required in Temporary Use Areas. In addition, the proposed changes to the fencing requirements will be consistent with mitigation measure BIO-1a, discussed above, regarding wetland avoidance.

Elderberry shrubs shall be avoided to the greatest extent feasible. According to the Conservation Guidelines for the Valley Elderberry Longhorn Beetle (USFWS 1999), complete avoidance is assumed when a 100-foot (or wider) buffer is established and maintained around elderberry shrubs. PG&E's biological surveys indicate that the pipeline route will not come closer than 30 feet to any elderberry shrub, and the buffer zones in Temporary Use Areas will be coordinated with the U.S. Fish and Wildlife Service. For all shrubs that would be avoided, the following measures are required:

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1. Buffer areas for elderberry shrubs will be fenced along the edge of construction work limits. The fencing shall be located in buffer zones coordinated with the USFWS. Protective fencing shall be erected around each elderberry shrub that would be avoided. The fencing shall be located no greater than 100 feet from the greatest dripline of the shrub.

Swainson's Hawk Monitoring

Page 4.4-104, lines 8-13

The DEIR requires construction to be halted within 0.25 miles of any nesting Swainson's hawks until the young have fledged. PG&E will obtain an Incidental Take Permit under section 2081 of the Fish and Game Code from the CDFG that will cover the potential for incidental take of Swainson's hawk. Therefore, PG&E suggests that the language be replaced as follows:

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If nesting Swainson's hawks are found, project activities within 0.5 0.25 miles of the project, PG&E will implement any necessary protection measures as required by the CDFG in the Section 2081 Incidental Take Permit, to prevent nest abandonment or forced fledging as a result of Project activities will be delayed until the young have fledged. Swainson's hawk nest sites within 0.5 mile of active construction will be monitored by a qualified biologist to evaluate whether the construction activities are disturbing nesting hawks.

Construction Windows in Mitigation Lands **Page 4.4-105, lines 1-3 (MM BIO-4b)**
Page 4.4-105, lines 10-12 (MM BIO-4b)
Page 4.4-105, lines 15-17 (MM BIO-4c)
Page 4.4-105, lines 26-29 (MM BIO-4c)

The DEIR limits construction activity in the Natomas Basin mitigation lands and the Sacramento River Ranch Conservation Bank mitigation lands to the period November through February when Swainson’s hawk is not present. However, construction within giant garter snake habitat is limited to the period between May 1 and October 1. (DEIR, page 4.4-68, lines 6-9.) Since the two habitats may overlap, PG&E cannot possibly comply with the construction windows for both species. However, reverting to Alternative Option H, as suggested on page 4.4-105, lines 10-12 and 26-29, is not a viable option and may even increase impacts to Swainson’s hawks and other nesting birds; as noted on page ES-10, Option H would result in an increase in the number of trees, wetlands, and riparian woodlands that would be impacted.

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Because mitigation for the protection of nesting Swainson’s hawks is addressed in MM BIO-4a, the construction windows for Swainson’s hawk is unnecessary and requests that the provisions in MM BIO-4b and MM BIO-4c referenced above be deleted.

Rare Plant Avoidance **Page 4.4-120, lines 15-17 (MM BIO-5)**

PG&E is not doing any roadway construction as part of this project. Therefore, the following bullet is confusing and should be deleted.

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~~Limiting all proposed roadway construction to the existing roadway surface(s) where adjacent special status plant species occur.~~

SECTION 4.5 CULTURAL RESOURCES

Area of Potential Effect **Pages 4.5-4 through 4.5-39**

This section of the DEIR repeatedly uses the phrase “Area of Potential Effect.” This is a term that is typically seen in documents referring to the National Historic Preservation Act term. To be consistent with other CEQA documents, PG&E recommends using the phrase Project Area or Study Area instead. Following are specific cites to places in the DEIR that use this language:

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| | |
|-----------------------------------|----------------------|
| page 4.5-4, line 5 | page 4.5-25, line 15 |
| page 4.5-8, lines 20-21 | page 4.5-28, line 24 |
| page 4.5-21, line 31 | page 4.5-35, line 31 |
| page 4.5-22, lines 10, 13- 14, 17 | page 4.5-36, line 5 |
| page 4.5-23, line 33 | page 4.5-39, line 4 |
| page 4.5-24, line 16 | |

Cultural Resource Studies **Page 4-5.1, line 10**

This section states that three separate cultural resources studies were completed for the project, but it goes on to list six different studies. PG&E recommends changing the word “Three” to “Several” at the beginning of line 10.

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Field Surveys

Page 4.5-3, lines 21-29

This section of the DEIR discusses pedestrian field surveys, but it does not address how sites were recorded. PG&E suggests the following revisions to provide a more complete and accurate description of the process:

All of the field surveys were conducted by qualified archaeologists meeting the Secretary of the Interior's Standards. Newly recorded resources were documented on California Department of Parks and Recreation form DPR 523 (1998), following Instructions for Recording Historical Resources (Office of Historic Preservation 1995). Any previously documented cultural resources within or immediately adjacent to the Project study area Area of Potential Effects (APE) were revisited during the surveys to confirm their locations and assess their present status. In some cases, the sites had been destroyed by modern development; in other instances, they were found not to extend into the Project area. Existing site records were updated on California Department of Parks and Recreation form DPR 523, as necessary. If existing documentation was adequate, or if the resources had been previously evaluated, the resource record was not updated. Historic linear features were recorded only if they possessed integrity; such features lacking integrity (such as modern roads overlain on historic-period roads, or upgraded power lines and railroad grades) or destroyed altogether were not recorded. Ten new site records were created for ten buildings recorded during the architectural survey."

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Public Consultation

Page 4.5-11, line 16, to page 4.5-12, line 3

This section regarding public consultation appears to be misplaced in the Results section; PG&E suggests that it be moved to the methodology section.

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Eagle Hotel

Page 4.5-36, lines 13-19 (APM CR-3)

PG&E suggests the following modifications to this language to provide more specific information regarding the geo-archaeological study and monitoring activities:

PG&E will complete a geo-archaeological study of areas identified as sensitive for buried resources, as well as backhoe testing at test the reported location of the historic Eagle Hotel, and other areas identified as sensitive for buried archaeological remains identified by a geo-archaeologist, prior to construction by backhoe trenching. All trenching will be supervised by a qualified professional archaeologist and/or geo-archaeologist. If the study is not completed by construction, an archaeologist will monitor any ground disturbing activities in these areas. If resources any buried materials are identified during either the geo-archaeological study or during construction uncovered, work will stop temporarily at that location, until a qualified archaeologist the monitor can assess the find and determine the appropriate action.

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Impacts to Paleontological Resources

Page 4.5-40 and 4.5-41

In the Project Description of the DEIR, it states that CSLC has identified mitigation measures throughout section 4 that are "required to reduce potentially significant impacts to less than significant levels." (Page 2-81, lines 4-5.) In most cases, the DEIR states that the mitigation measures would reduce the impacts to less than significant. However, in the cultural

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resources section, the DEIR does not make an explicit statement to that effect. This oversight can be corrected by adding the following clarifying language:

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Page 4.5-40, lines 20-21 (PALEO-1)

... These tasks would enhance subsequent evaluation and curation by the chosen repository. With incorporation of MM PALEO-1, impacts to potential resources would be less than significant.

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4.5-41, lines 25-26 (PALEO-2)

... be properly curated and available to present and future generations of research scientists and students. With incorporation of MM PALEO-2, impacts to potential resources would be less than significant.

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Impacts to Unknown Cultural Resources

Page 4.5-43, lines 5-21 (MM CR-1)

PG&E has already surveyed most of the alternatives where it had access. In addition, implementation of APMs CR-1 through CR-5 clearly identify steps to be taken if any unknown resources are identified. Therefore, PG&E suggests the following revisions to MM CR-1:

Alternative Option Pre-Construction Cultural Resource Surveys. If an Alternative Option becomes the preferred route, to ensure protection of undiscovered cultural resources, pedestrian field surveys will be conducted for areas all Alternative Options that were not included in the original field survey efforts. The surveys will be conducted by qualified archaeologists meeting the Secretary of the Interior's Standards and utilizing appropriate transect intervals, typically 15 to 20 meters, walked in a zigzag pattern to ensure complete coverage of the Alternative Options Area of Potential Effects (APE). Previously recorded cultural resources located within or immediately adjacent to the Alternative's APE would be re-located and their current condition described and recorded on Department of Parks and Recreation (DPR) update forms. Any previously unknown cultural resources discovered during the course of the Alternative Options surveys would be evaluated for historic significance if the resource will be impacted by the Project and recorded on appropriate DPR forms. In cases where significant impacts would be unavoidable, resource specific, appropriate mitigation would be required to reduce these impacts to less than significant levels as described in APMs CR-1 through CR-5.

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Impacts of Alternatives

**Page 4.5-43, lines 22-23; page 4.5-44, lines 3-4
page 4.5-45, lines 25-26; page 4.5-47, lines 3-4
page 4.5-47, lines 19-20; page 4.5-48, Table 4.5-2**

On page 4.5-43 line 5, the DEIR describes pre-construction surveys to be conducted for all alternative options not already surveyed, and concludes that with implementation of the APMs and CR-1, the impact for Options would be less than significant (page 4.5-42, line 29). The DEIR concludes that the cultural resource impacts of Options A, B, D, E, and H would be greater than under the proposed project. However, the basis for this conclusion is unclear since surveys have not been conducted for these options. The DEIR also indicates that Options F, I, and J would have fewer cultural/historic impacts than for the proposed Project. However, since the proposed Project does not have any known cultural resources

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impacts after mitigation, it is unclear why these three options would have even fewer impacts. PG&E recommends that the referenced statements be deleted and that Table 4.5-2 be updated to reflect these changes.

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SECTION 4.6 GEOLOGY AND SOILS

Earthquake Faults

Page 4.6-39, line 3, to page 4.6-40, line 8 (MM GEO-1)

The DEIR acknowledges that the pipeline is not in designated earthquake fault zones (page 4.6-23, lines 24-27) and that the area has a historic record of low to moderate seismicity (page 4.6-39, lines 4-5). However, Mitigation Measure GEO-1 would require further seismic field investigations to evaluate surface fault rupture hazard and the development of a computer model to evaluate pipeline design. The DEIR overlooks the fact that the CPUC has sole and exclusive jurisdiction over pipeline design standards. Moreover, the requirement for further field studies appears to be based on a misunderstanding of the potential surface impacts of these types of faults. The main seismic design concerns for this pipeline are potential stresses due to traveling wave effects and potential strains due to liquefaction-induced permanent ground displacements, not displacement on buried faults at depth.

The DEIR notes that Willows fault is not considered "active" or even "potentially active." (See page 4.6-23, lines 1-5.) It also notes that the Dunnigan Hills and Great Valley faults do not reach the surface. (Page 4.6-38, lines 23-25.) As such, these faults, at most, would be associated with broad tilting of the land surface rather than discrete surface fault rupture. Modern pipelines are designed to withstand such distributed deformation, and further field investigations is unlikely to yield any benefit.

As stated elsewhere in the DEIR (page 4.6-23, lines 19-27), and illustrated on Figure 4.6-4, the ground shaking hazard for the pipeline alignment is based on the probability of earthquakes on all faults in the region, not the three faults crossed by the pipeline. Any pipeline route proposed in this area would experience similar ground shaking hazard. Therefore, PG&E proposes the following changes to the language in Impact GEO-1, Mitigation Measure GEO-1, and the supporting rationale to specify the type of analysis that should be performed:

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~~Due to the regional tectonic setting proposed pipeline crossing of the three faults, the~~ Project area is subject to ground shaking due to earthquakes. Historically, the area has experienced a low to moderate seismicity. The Project could be exposed to ground motion due to a seismic event or any resulting phenomenon such as liquefaction or settlement that could substantially damage structural components.

MM GEO-1 Site Specific Seismic Analysis Field Investigation

To determine the traveling wave effects PG&E will develop calculations for the pipe bending stresses due to traveling seismic waves in long straight runs of the pipeline using industry accepted procedures (American Lifelines Alliance "Guidelines for the Design of Buried Steel Pipe", PRCI "Guidelines for the Seismic Design and Assessment of Natural Gas and Liquid Hydrocarbon Pipelines, and ASCE, "Guidelines for the Seismic Design of Oil and Gas Pipeline Systems").

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To determine the effect of liquefaction, PG&E will undertake buried pipeline deformation analysis to assess the effects of liquefaction-induced permanent ground displacements for various scenarios. The various scenarios will be dependent on soil conditions and depth of cover, pipe-soil spring properties, amplitude and distribution of the ground displacement profile due to liquefaction and the location of any significant geometry change features along the alignment in the areas of interest. The maximum pipe tension and compression strains developed in the analysis models will be compared to appropriate strain limits (PRCI, "Guidelines for the Seismic Design and Assessment of Natural Gas and Liquid Hydrocarbon Pipelines") to develop a demand vs. capacity assessment.

If the analysis yields results below the designed pipelines specified minimum yield strength, the analysis will be summarized and concluded. If the stresses are above the SMYS, further review will be required. Further review may include reviewing the current pipeline design criteria or performing further site-specific seismic field investigations.

~~PG&E shall perform a site-specific seismic field investigation as part of its detailed design phase for the proposed Project. The field investigation would determine whether any engineering/design solutions are needed to mitigate against any hazards of seismic displacements along the fault crossings. If the field investigation determines the presence of any active faults in project location, then the following shall be completed:~~

~~PG&E shall determine the engineering/design solutions that are appropriate to mitigate against the hazard of seismic displacements along any active faults.~~

~~PG&E shall develop a computer model to determine the soil-pipe interaction with the proposed applied displacement. The model would evaluate various combinations of pipe wall thickness and pipe grade to determine which pattern yields the best performance under displacement conditions. The design shall also incorporate additional methods as necessary.~~

~~PG&E shall design the proposed pipelines and any other proposed facilities using industry CPUC standards for seismic-resistant design in liquefaction-prone areas.~~

~~PG&E shall provide a copy of the final design, as well as any related geotechnical information, to the CSLC before construction of the proposed Project.~~

~~A certified engineering geologist shall observe the construction excavation in the vicinity of the fault crossings to verify the presence or absence of surface deformation that the design assumptions are valid and the design measures (if any) are centered in the correct location.~~

Rationale for Mitigation

~~The seismic field investigation would determine whether engineering/design solutions are needed to mitigate against any hazards of seismic displacements along the fault crossings. Any necessary Standard industry design features would ensure strength and ductility of the pipeline facilities in order to reduce the potential impacts associated with displacement caused by surface faulting and liquefaction.~~



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|---|---------------------------------|------|
| Typo | Page 4.6-5, line 25 | S-72 |
| <p>... feature created by the displacement of this unit extends to within less <u>than</u> then 2 miles of. . .</p> | | |
| Typo | Page 4.6-19, lines 13-14 | S-73 |
| <p>... these stresses cause strain to build up in the earth's <u>crust</u> eurst until enough strain has built up to exceed the strength along a fault and <u>cause</u> case a brittle fracture. The slip . . .</p> | | |
| Typo | Page D.4.6-23, line 7 | S-74 |
| <p>... discontinuous <u>tonal</u> tetal lineaments near the base of the northeast-facing escarpment of . . .</p> | | |

SECTION 4.7 HAZARDS AND HAZARDOUS MATERIALS

System Safety **Pages 4.7-32 to 4.7-37 (MM HAZ-2)**

The DEIR uses a statistical approach to analyze the potential impact of serious injury and fatalities due to project upset, but the accuracy of the results is highly dependent on the underlying assumptions. PG&E has contracted for an independent review of the DEIR's System Safety and Risk of Upset Report, which is attached as Appendix A. This report finds that the CSLC's risk assessment to be generally credible, but it identifies some data inconsistencies and some statements that appear to be in error. PG&E suggests that CSLC and its consultant review the attached report and rerun the risk calculations on Table 4.7-5 to reflect these comments.

The DEIR references a protocol developed by the California Department of Education to perform a risk assessment for schools to evaluate the risk associated with PG&E's Project. (DEIR, page 4.7-32, lines 16-17.) However, this approach is not widely accepted in the pipeline industry because it is not suited for use with a linear facility. The Office of Pipeline Safety, Department of Transportation (DOT) Pipeline and Hazardous Materials Safety Administration (PHMSA), which has primary jurisdiction over safety standards for pipelines, uses a population density approach to establish design standards. PG&E has designed the Project to meet federal standards and strongly believes that those standards are sufficient to ensure public safety.

In addition, the DEIR uses DOT reportable incidents to determine the frequency rate of various types of incidents. (DEIR page 4.7-6, lines 8-30.) However, this approach does not adequately take into account the specific attributes of the proposed project. Incidents reported to the DOT include all types and vintages of transmission pipelines. Advances in construction materials and techniques, such as modern coatings and radiographic inspection of welding, as well as improvements in cathodic protection monitoring and integrity management plans, render PG&E's proposed project much less susceptible to risk. While the DEIR recognizes the advantages of modern pipelines, it is not adequately reflected in the calculation of risk. In the absence of data sufficient to quantify the difference in incident frequencies based upon pipeline attributes, it would fall to reason that the proposed modern pipeline would far exceed the national average for incident rates of 1×10^{-5}

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fatalities per mile year. Yet the result of the study is 6.1×10^{-5} , which is roughly 6 times greater than the national average.

For example, in addition to the pipeline inspection frequencies listed in Table 4.7-7, PG&E will install remote monitoring of cathodic protection potentials at approximately one-mile intervals along the route. This will provide real time data of the cathodic protection system and allow for a timely response to make corrections. This application of technology is very recent. The risk of incident due to corrosion utilized in the DEIR's analysis should be significantly reduced when applied to the proposed project since the vast majority of the pipelines in the data set would not have remote CP monitoring capability.

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Determining High Consequence Area

Pages 4.7-14 and 4.7-15

PG&E requests that the DEIR be clarified as follows to reflect that PG&E has adopted method two for determining High Consequence Areas:

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Page 4.7-14, lines 13-14

The HCAs may be defined in one of two ways. Both methods are prescribed by 49 CFR 192.903. PG&E adopts method two (Potential Impact Circle) as its chosen method for determining HCAs in relation to its transmission system.

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Page 4.7-15, lines 6-7

In the second method (PG&E's adopted method), an HCA includes any area within a potential impact circle that contains:

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Pipeline Design Requirements

Page 4.7-18, lines 10-20

As a CPUC-regulated public utility, PG&E must comply with state and federal pipeline design requirements and is not bound by other guidelines. Therefore, PG&E requests that the above-referenced language be deleted from the DEIR.

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Emergency Plans

Page 4.7-31 (MM HAZ-1)

As written, this mitigation measure would require clearing 25 feet outside of the permanent right-of-way and the temporary use area. In addition, minor corrections need to be made to the referenced operational stations. PG&E recommends correcting this mitigation measure as follows:

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Lines 11-13

Maintain all areas clear of vegetation and other flammable materials for at least a 50 25-foot-radius of any welding or grinding operations, or the use of an open flame.

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Line 27-29

Require the contractor to use dedicated fire watch during all hot work within the existing operational stations (e.g., ~~Concord~~ Capay or ~~Sacramento~~ Yolo Station).

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Pipe Grade

Page 4.7-36, lines 9-12