Comment Set 40

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Energy Division
California Public Utilities Commission
c/o Aspen Environmental Group
233 Montgomery Street, Suite 935
San Francisco, CA 94104

Re: A.02-09-043: Comments on Draft Environmental Impact Report for the Proposed Jefferson-Martin 230 kV Transmission Line Project

Dear Ms. Blanchard:

The 280 Corridor Concerned Citizens Group ("280 Citizens") appreciates the level and quality of work that has gone into preparation of the Draft Environmental Impact Report ("DEIR") for the proposed Jefferson-Martin 230 kV Transmission Line Project (the "Project" or the "Proposed Project) and is pleased to have the opportunity to comment on the DEIR. The DEIR is very thorough and informative in a number of respects, but is deficient in others. And, unfortunately, in its present form, it fails to adequately analyze a very important alternative that 280 Citizens now believes is not only the most beneficial, equitable and environmentally superior alternative, but also a true win-win solution for PG&E, San Francisco, and the communities and residents of the 280 Corridor. This alternative is a variation on the Partial Underground Alternative and 280 Citizens is referring to it as the Watershed Restoration Alternative ("WRA").

40-1

The comments of 280 Citizens will focus primarily on the WRA, which is described in Section VII of these comments. 280 Citizens believes the WRA is the environmentally superior alternative, because it meets all project objectives, meets all three feasibility criteria, and provides San Francisco with the solution it seeks to permit it to shut down in-city generation

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while simultaneously mitigating environmental impacts of the Proposed Project on communities and residents of the 280 Corridor and enhancing the environment on the Peninsula. The WRA thereby meets all of the criteria of Public Utilities Code sections 1001 and 1002, including compliance with community values of all of the affected communities, enhancing environmental quality in all affected areas, and best meeting public convenience and necessity. 280 Citizens will also comment upon the DEIR's analysis of the Partial Underground Alternative.

40-1

The DEIR evaluation is deficient in several respects that impact its analysis of the WRA and the Partial Underground Alternative. First, the DEIR fails to adequately evaluate the No Project Alternative. Its analysis of the No Project Alternative is cursory and fails to address important information that bears both on project need and equities with respect to the benefits and burdens of the Proposed Project. Second, the DEIR inappropriately rejects some alternatives without analysis, on the grounds that the alternatives cannot be completed by the 2005-2006 timeframe the DEIR adopts for completing the Proposed Project. Third, the DEIR fails to thoroughly analyze the health and safety impacts associated with electromagnetic fields ("EMFs") or incorporate those impacts into the analysis leading to its conclusions.

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Fourth, the DEIR fails to acknowledge the Commission's broad authority under California Constitution and the Public Utilities Code to condition its issuance of a certificate of public convenience and necessity ("CPCN") for the Proposed Project on such mitigation measures as it determines to be in the public interest, including measures that may be beyond the scope of the mitigation that can be required solely under CEQA authority. Based on this error, the DEIR rejects without analysis several alternatives that better meet the project objectives and public interest criteria under Public Utilities Code Sections 1001 and 1002, on the asserted grounds that the alternatives entail mitigation measures that may not be imposed under CEQA or do not meet one of PG&E's stated objectives for the project. The Commission, in the exercise of its statutory authority under Public Utilities Code sections 1001 and 1002, must, however, consider a number of factors in addition to environmental impact in determining whether the project is in the public interest and under what conditions a CPCN should be issued. If the DEIR dismisses otherwise feasible alternatives on grounds that they entail mitigation that cannot be lawfully imposed under CEQA, such dismissal will unnecessarily and inappropriately preclude the Commission from fully evaluating such alternatives in the CPCN phase of this case under Public Utilities Code sections 1001 and 1002 in a timely manner.

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In these comments, 280 Citizens describes the Watershed Restoration Alternative and explains how it best meets the Project objectives. 280 Citizens also describes how the "Partial Underground" Alternative is also superior to both the Proposed Project and the All Underground Alternative 1B. The DEIR's analysis of the Partial Underground Alternative omits several important factors and, correspondingly, its analysis of the All Underground Alternative 1B understates the negative environmental impacts of that route, relative to both the Partial Underground Alternative and the Watershed Restoration Alternative.

All of the deficiencies discussed in these comments can be corrected in the Final EIR, and 280 Citizens urges the Commission to do so in order to ensure both that the Final EIR fully complies with CEQA and that the Commission is able to give full consideration to all

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alternatives within the broader scope of the Commission's authority under Public Utilities Code sections 1001, 1002 and other code provisions later in the CPCN phase of this proceeding.

PG&E's proposed Jefferson-Martin Project is quite unusual in several respects. First, there is no real need for the project in the traditional sense except to facilitate the City of San Francisco's long-standing desire to close all of the electric generating plants of any significant size in the City and thereby reduce local air emissions, reduce adverse health, safety and aesthetic impacts on residential areas, and enhance the general environment within City boundaries. PG&E's Proposed Project would secure these significant environmental and economic benefits for the City of San Francisco and its residents, but would impose all of the burdens of doing so on the communities and residents of the Peninsula. In this respect, PG&E's Proposed Project is not unique. Unlike most transmission line projects, however, there are reasonable, feasible alternatives to PG&E's Proposed Project that would provide significant economic and environmental benefits for all affected communities, including the communities and residents on the Peninsula as well as San Francisco. Thus, this is a rare transmission line application in which a true win-win solution is possible. 280 Citizens urges the Commission to revise its DEIR as discussed herein to ensure that this alternative is properly evaluated under CEQA and within the scope of the alternatives that the Commission can timely adopt at the conclusion of evidentiary hearings on CPCN issues under Public utilities Code sections 1001 and 1002.

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I. The 280 Corridor Concerned Citizens Group

The 280 Corridor Concerned Citizens Group is an ad hoc nonprofit organization comprised of residential ratepayers of PG&E who live in the Proposed Project area. The members of 280 Citizens share a common interest in ensuring that the health and safety of local residents, community values and the environment are preserved and protected, and that the potentially significant adverse impacts related to the Proposed Project are avoided or mitigated.[1] 280 Citizens is an active party in Application ("A.") 02-09-043. 280 Citizens filed a protest of PG&E application, filed a prehearing conference statement and participated actively in the January 10, 2003 prehearing conference, filed scoping comments on February 27, 2003, participated actively in the scoping meetings held in March, 2003, and participated actively in the public participation hearings held in San Mateo on August 12, 2003 to discuss the DEIR.

II. Guiding Principles

280 Citizens bases its comments on the DEIR on five fundamental principles:

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(1) High-voltage transmission lines are incompatible with residential neighborhoods and should be placed outside of those neighborhoods whenever other practical alternatives exist that meet legitimate project objectives and mitigate substantial environmental impacts.

[1] 280 Citizens also includes the more than 300 people who previously signed a letter to you dated August 21, 2003.

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(2) To the extent that use of residential neighborhoods is required, the lines must be located so as to minimize the environmental, health, safety, and economical impacts of the line on human beings – i.e., by undergrounding the proposed and existing lines in the optimal EMF-canceling triangular configuration as they go through residential neighborhoods.

(3) The Commission has broad authority to condition its grant of a CPCN on any factors that bear on the public interest under Public Utilities Code Sections 1001 and 1002 and is not limited by CEQA in the conditions it can impose as part of its grant of a CPCN.

(4) Where a proposed project will provide significant environmental, health, safety, and economic benefits to one community while potentially imposing significant environmental, health, safety, and economic burdens on other communities, the Commission has both the authority and the obligation to fairly allocate the benefits and burdens of the project, by conditioning its grant of a CPCN on measures to mitigate the burden of the Project on negatively affected communities.

(5) This equitable balancing of benefits and burdens is required in the public interest particularly in a case in which there no compelling immediate need for the Project other than to secure environmental and economic benefits for one community at the expense of others.

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III. The DEIR Does Not Adequately Evaluate The No Project Alternative

The DEIR rejects the No Project Alternative after a cursory analysis, concluding among other things that:

(1) New generation within the City of San Francisco has not been approved, there is no guarantee any of the proposed units will be approved, it is assumed that Potrero 7 will not be built but that the four Williams turbines will be sited. [DEIR at C-49-52]

(2) If approved, construction of new generation will take at least two years, so new generation will not meet the 2005-2006 timeline assumed by the DEIR. [DEIR at ES-25]

(3) If Potrero 7 were built and the addition of the plant were used as a means to retire Hunters Point, the net amount of in-city generation is unlikely to increase. [DEIR at C-35]

(4) New in-City generation would not meet Objective #4 because the new generation does not connect to Jefferson and Martin Substations. [DEIR at ES-5]

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(5) Any No Project Alternative that includes new in-city generation will have long-term air emission, noise, and visual impacts. [DEIR at E-14]

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The DEIR's analysis of the No Project Alternative is deficient because it looks too narrowly at the Project. The DEIR evaluates all alternatives on the basis of PG&E's stated project objectives, without ever questioning the validity of PG&E's objectives. Objectives 3 (Creating a more diverse transmission system) and 4 (complying with the ISO's April 2002 resolution supporting Jefferson-Martin) both eliminate all possible non-transmission solutions to San Francisco's lack of reliability. Acceptance in the DEIR of these project objectives automatically moots any consideration of the No Project Alternative, all non-wires alternatives, and any alternatives other than a 230 kV transmission line between the Jefferson and Martin Substations. By accepting PG&E's framing of the project objectives without question, the DEIR abdicates its responsibility to fairly evaluate the No Project Alternative and viable alternatives that might reduce or eliminate significant environmental impacts of the proposed project.

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No need for the Project by 2005 or 2006 has been shown. Need has already slipped by a year, from 2005 to 2006. [DEIR at A-7] There is no sign that growth is picking up as the most recent load growth studies claim. The U.S. Census Bureau report issued in July, 2003 states that San Francisco lost a greater percentage of its residents than any other large city in the country between July 2001 and July 2002, declining nearly 2 percent between 2000 and 2002 after rising 7 percent over the 1990s. In contrast, the load growth studies on which the 2005-2006 timetable are based appear to be based on the increase in population and economy that occurred during the 1990's and the assumption that the same rate of growth would continue into the future.

PG&E load forecasts assume continued growth in S.F. load that was unrealistic, even before economic downturn reduced current load below that assumed by PG&E and slowed future load growth. Outdated load forecasts ignore actual drop in S.F. load and vast reduction in speed of future load growth.

PG&E's and the ISO's needs assessments to support transmission projects have proven repeatedly to overstate load and understate the capacity of the existing transmission system. For example, in the Tri-Valley Transmission Line case (A.99-11-025), PG&E and the ISO asserted loudly and often that if PG&E's proposed 230 kV transmission lines were not built by June 2002, the lights would go out in Livermore, Pleasanton, Dublin and San Ramon. That project has not been completed yet, the artificial deadline has long passed, and the lights are still on, with no threatened shortage. In PG&E's Northeast San Jose Transmission Project (A.99-09-029), PG&E and the ISO forecast a similar doomsday scenario that never came to pass.

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The No Project Alternative must consider how the reliability needs of San Francisco would be met without the construction of the Jefferson-Martin Project. There are several "No Project" generation alternatives that would dramatically increase the reliability of electric service to San Francisco: (1) siting the four Williams turbines (180-200 MW of total capacity); (2) the licensing and construction of the Potrero 7 unit (500 MW). These generation alternatives are within the power of San Francisco to effectuate. While San Francisco supports siting of the four Williams turbines, it is opposed to the continued operation of existing generating plants and to

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the siting of any new generating plants of significant size within the city. It is also apparent that PG&E shares San Francisco's goal of reducing the amount of generation in San Francisco and increasing San Francisco's reliance on the importation of distant generation over transmission lines.

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The Jefferson-Martin transmission line, regardless of the route selected, does not create a more diverse transmission system serving the City of San Francisco (PG&E's Objective 3) because it only shifts the choke point on the existing transmission system north from the Jefferson Substation to the Martin Substation. Virtually all of the power that is imported into San Francisco has to go through the Martin Substation, and adding another transmission line into Martin leaves all of the power imported into San Francisco vulnerable to interruption, particularly if a problem occurs at Martin. By enabling San Francisco to close its in-City generation, Jefferson-Martin actually increases the reliance of San Francisco on distant power sources imported through that single chokepoint. Not only is San Francisco putting all of its proverbial eggs in a single basket, it is adding eggs to that already overfilled basket.

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The major transmission outage that hit the East Coast and Great Lakes regions of the U.S. and Canada in mid-August reveals starkly the folly of relying too much on transmission facilities to ensure reliability of service. PG&E's utility neighbor to the south, Southern California Edison Co., agreed with this position fully only two weeks ago when it filed comments with the Commission on the feasibility of an RFP for determining the desirability of Edison's Mountainview application (A.03-07-032). In those comments, Edison stated:

> The recent Northeast blackout dramatically demonstrated the drawbacks of being too dependent on distant power generation. When serious system disturbances occur, specially designed transmission equipment disconnects in order to avoid permanent damage to valuable equipment. In the extreme, this results in 'islanded' areas of the system. To the extent these areas contain sufficient local generation, customers in these islanded areas need not be blacked out. Moreover, restoration of the system following such major disturbances can also be greatly facilitated by having local generation.
>
> Even under normal operations, generator proximity to load centers has valuable effects. For instance, during peak-load conditions on the transmission system, more distant generation may suffer 'congestion' and not be capable of delivering the benefits of its capacity and low-cost energy to consumers. Thus, because local generation is highly 'deliverable,' its capacity need not be derated for purposes of satisfying resource adequacy requirements.

San Francisco and PG&E have taken the opposite position, and San Francisco continues to oppose the efforts to license construction of the Potrero 7 Unit as a replacement for the much

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more polluting older Potrero and Hunters Point units. San Francisco has taken the position before the California Energy Commission that the Potrero 7 unit should not be licensed. Initially, the City asserted that the application for the plant was deficient because it sought to use large amounts of water from the San Francisco Bay to cool the plant, thus endangering the ecosystem of the Bay. However, when Mirant proposed to substitute a recycled water-cooling system for Potrero 7, in deference to San Francisco's opposition to the use of Bay water, and submitted a proposal to San Francisco to purchase recycled water from the city, San Francisco refused to even discuss the proposal with Mirant. See August 13, 2003 letter from Patricia E. Martel, General Manager of the San Francisco Public Utilities Commission, to Mark Harrer, Project Director of Mirant, attached hereto as Exhibit 1. **40-10**

The recent financial difficulties of Mirant do not provide a basis for assuming that Potrero Unit 7 will not be built. Both San Francisco and PG&E can ensure that Potrero 7 gets built. Among their options:

(1) PG&E could enter into a contract with Mirant to purchase the output of the plant;

(2) The project could be sold to another merchant power developer;

(3) PG&E could purchase the project; or

(4) San Francisco could ensure that the project is approved by the CEC by withdrawing its opposition.

In fact, the reliability of San Francisco's electric system would be far better ensured by replacing the aging, inefficient, highly polluting Potrero units with the proposed new Potrero 7 unit, which would dramatically reduce the total air emissions even while producing far more power than the Potrero units and Hunters Point Unit combined currently produce. In the event of a significant failure of the transmission system on the Peninsula, the presence of significant in-city generation is the only way to ensure reliable electric service to San Francisco residents. In short, the Jefferson-Martin line is not the best solution to the reliability needs of San Francisco.

In addition to the valuable effects of generator proximity to load center, line losses are generally 3%-5% of the major blocks of power moved over transmission lines. Over time, this is a significant amount of power, and dollars, that will be lost transporting power over great distances to serve San Francisco. That large amount of lost power also carries a significant negative environmental impact. Replacement of the lost power requires additional power generation, resulting in additional air emissions, water emissions, and use of valuable water for cooling. **40-11**

280 Citizens sympathizes with the desire of the City of San Francisco and its residents to rid the City of existing old electric generating plants. San Francisco's desire to reduce air emissions and enhance environmental quality within City boundaries should not, however, be mistaken as establishing need in the traditional sense within the meaning of Public Utilities Code Section 1001. Nor can it provide grounds to inappropriately attenuate the scope of the **40-12**

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Commission's consideration of broader public interest considerations the Commission is under a statutory duty to consider under Public utilities Code sections 1001 and 1002, or of feasible alternatives under CEQA that better meet the broader public interest.

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The DEIR should be revised to more thoroughly consider the No Project Alternative and to provide a more complete basis upon which to assess the relative allocation of environmental benefits and costs, between and among affected communities, of PG&E's Proposed Project and feasible alternatives.

IV. <u>The DEIR Inappropriately Rejects Some Alternatives Without Analysis, On The Grounds That The Alternative Cannot Be Put In Place By The 2005-2006 Deadline The DEIR Adopts</u>

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The DEIR rejects some alternatives without analysis on its unsupported assumption either that (i) the alternative will require regulatory approvals that cannot possibly be obtained by 2005-2006; or (ii) the alternative will not achieve produce or save sufficient power by 2005-2006, to avoid constructing Jefferson-Martin. For example, the DEIR rejects all alternatives that would require the use of federal, SFPUC or other public lands, assuming that getting permits by 2005-2006 from any of these agencies is just not possible. The DEIR reaches this unsupported conclusion based solely on PG&E's claims:

(1) "Use of SFPUC easement would not be allowed by the SFPUC so it is infeasible for regulatory/permitting reasons." [DEIR at ES-20]

(2) Moving line to west of existing ROW along homes "would be infeasible because required permits could not be obtained within a reasonable period of time. . . . Conflicts with the SFPUC's Watershed Management Plan and the NPS' scenic and recreational easement." [DEIR at ES-20]

The DEIR asserts no basis for accepting PG&E's self-serving assertion that the SFPUC will not permit the use of its lands for the project, when the project will be built primarily for the benefit of San Francisco. To the contrary, it is in San Francisco's best interests to permit the use of some of its Watershed lands to site alternatives to the Proposed Project, because doing so will ensure that the Jefferson-Martin transmission line will be built sooner, permitting San Francisco to begin shutting its polluting in-City generation.

The DEIR also rejects the integrated resource alternatives (renewable resources, distributed generation and energy conservation) on the grounds that even if implemented by San Francisco by 2005-2006, they will not collectively produce or save power to allow elimination of the Jefferson-Martin Line. [DEIR at C-42]

The lack of need for the Project for any reason except to permit San Francisco and PG&E to close Hunters Point and/or the Potrero Plant demonstrates that 2005-2006 **<u>is not a legitimate deadline</u>**. This fact means that there is time for PG&E to obtain any additional regulatory approvals it might need for an environmentally superior alternative that the DEIR has rejected

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without analysis or for integrated resource alternatives to achieve significant power production or savings through non-transmission line alternatives. The DEIR should be revised to reflect this fact.

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V. **The DEIR Fails To Analyze The Health And Safety Impacts Associated With EMFs**

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The DEIR does not discuss, address or analyze either EMF levels or the potential health impacts of EMF levels in any detail. In particular, the DEIR does not address the potential EMF impacts of installing both a 230 kV line and a 60 kV line in close proximity to homes, which would occur if the All Underground Alternative 1B were to be selected

A majority of the medical and scientific studies published in the peer reviewed medical literature show that children living in homes near high voltage or high current power lines, as well as workers exposed to power-frequency EMFs on the job, are developing cancer at significantly higher rates than children and workers who are not exposed or who are less exposed.

A June 2002 study by the California Department of Health Services ("DHS") indicates that DHS scientists are inclined to believe that EMFs are associated with an increased risk of childhood leukemia, adult brain cancer, Lou Gehrig's disease and miscarriage. According to the Energy Power Research Institute in Palo Alto ("EPRI"), 5% of residences in the U.S. are exposed to EMF levels that would occur in many homes along the proposed line. It is estimated by EPRI that children in homes with EMF exposure of 3-4 mG are twice as likely to develop childhood leukemia as their non-exposed peers.

Although the DEIR acknowledges EMFs as potentially dangerous by discussing low cost and no-cost measures that mitigate affects at schools and day care centers along route, it fails to adequately account for the exposure that our families would constantly face in and around our homes. Moreover, when EMF levels are calculated, all future load scenarios must be considered and not simply current loads under ideal conditions.

EMF issues should be considered not just in setting placement of the new transmission line within the route after the Commission selects it, but should be used in deciding the routing of the new line. The serious potential risks of EMF exposure warrant prudent avoidance to EMF exposure reflected in a more conservative position by the Commission, especially given the fact that residents along the Proposed Project will have no ability to avoid exposure—unlike other potential hazards such as smoking or toxic chemicals—except to sell their homes.

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In particular, in selecting the All Underground Alternative 1B as the environmentally superior alternative, the DEIR fails to analyze the EMF impacts of having an overhead 60 kV line on one side of homes and an underground 230 kV line on the other side of homes between Hayne Road and Trousdale Drive.

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VI. The DEIR Incorrectly Dismisses Alternatives Without Analysis That The Commission May Consider Because the DEIR Fails To Acknowledge The Commission's Broad Authority Under The Public Utilities Code To Condition Its Issuance Of A CPCN On Any Mitigation Measure It Deems To Be In The Public Interest

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The DEIR dismisses certain alternatives without analysis on the asserted grounds that the alternative entail mitigation that is beyond the permissible scope of the mitigation that can be imposed under CEQA. In particular, the DEIR refuses to analyze an alternative that would collocate the existing 60 kV line underground as part of the All Underground Alternative 1B, claiming that relocation of the existing 60 kV line to a new route is not a permissible alternative under CEQA Guidelines. [DEIR at C-24-25] This refusal is inappropriate for two reasons.

First, the limitations on Commission authority under CEQA on which the DEIR relies to avoid analyzing certain alternatives do not apply in this instance because PG&E's Proposed Project is an all-overhead design in the southern portion of the project that would collocate the 230 kV and 60 kV lines overhead on modified higher towers with a larger footprint and wider rights-of-way. This design would significantly increase numerous potentially significant impacts including visual impacts, health and safety impacts, conflicts with existing land uses, particularly residential land uses and scenic and recreational values. Contrary to the conclusions in the DEIR, it is well within the Commission's authority to adopt mitigation measures to avoid or mitigate these impacts.

Second, even if PG&E had proposed the All Underground Alternative 1B, which does not have potentially significant visual impacts, the scope of the mitigation that the Commission may impose in this proceeding is not limited by CEQA. The Commission has broad Constitutional and statutory authority under the Public utilities Code and may impose mitigation measures as a condition of its grant of a CPCN for the project under Public Utilities Code sections 1001, 1002, 761, 762, and 762.5, in addition to measures that can be imposed under CEQA.

The DEIR's rejection of certain alternatives without full analysis on the grounds that CEQA does not grant the Commission authority to consider them as mitigation measures will unnecessarily and unlawfully limit the scope of the alternatives that the Commission can consider in the CPCN phase of this proceeding even though the Commission has very broad statutory authority under Public Utilities Code Sections 761, 762, 762.5, 1001, and 1002 to consider additional factors beyond those CEQA requires and additional conditions and alternatives beyond those that can be imposed under CEQA. These Public Utilities Code sections give the Commission both the authority and the duty to consider alternatives independent of CEQA.

The CPUC's authority is much broader than the DEIR implies, because of the CPUC's independent statutory authority and mandate to consider factors that are outside the CEQA process. In addition, the DEIR is an informational document, not a decision-making document. [DEIR at A-1] The Commission must decide whether to approve the Project, and if so under

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what conditions under its broad statutory authority under the Public Utilities Code and not solely or even primarily under CEQA. **40-16**

The CPUC has the authority and the obligation under Sections 1001-1002 to consider not just the environmental consequences of the alternatives and various mitigation measures, but also the need for the project and the consistency of the project and alternatives with community values, all as part of its statutorily-mandated review of the Project and alternatives. **40-17**

The Commission also has the authority under Sections 761, 762, and 762.5 to order a utility to make changes to its facilities "to promote the security or convenience" of the public "or in any other way to secure adequate service or facilities." As a basis for issuing any such order, the Commission is required to give consideration to the same factors that it must consider under Section 1002: (a) community values; (b) recreational and park areas; (c) historical and aesthetic values; and (d) environmental factors.

Under Sections 761, 762 and 762.5, the Commission has ample authority to require PG&E to remove, relocate or underground existing transmission lines where determined necessary to meet public interest considerations. PG&E's existing 60 kV transmission lines that it proposes to modify to accommodate its proposed new 230 kV line are poorly maintained currently and run dangerously close to a number of homes, in some case practically right over existing homes.

It is within the Commission's authority under all of these statutory provisions to consider, evaluate, and condition approval of PG&E's application on undergrounding some or all of the existing 60 kV system as part of the Proposed Project. The fact that one of the alternatives analyzed by the DEIR (1B) would underground the entirety of the new 230 kV line outside of the existing 60 kV right of way in no way limits the authority of the Commission under Public Utilities Code sections 1001, 1002, 761, 762 or 762.5 to require PG&E to underground portions of the existing 60 kV line.

Under the circumstances presented by PG&E's Proposed Project, the CEQA analysis must include reasonable and possible alternatives that the Commission may select in the exercise of its broader statutory authority under pertinent provisions of the Public Utilities Code, irrespective of whether or not such alternatives could be imposes solely as mitigation measures under CEQA. If the DEIR fails to analyze these alternatives, the Commission will lack sufficient information to consider these alternatives along with other alternatives, and its ability to adopt and timely implement the alternative that best meets public interest considerations of all affected communities under Public Utilities Code sections 1001 and 1002 may be severely undermined.

VII. The Watershed Restoration Alternative Best Meets The Project Objectives While Minimizing Environmental Impacts On The Affected Communities **40-18**

The WRA is a variation of the Partial Underground Alternative.

From the Jefferson Substation to the Carolands Substation, the 230 kV line would follow

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the All Underground Alternative 1B alignment underground in Canada Road, then in Hayne Road, then in Skyline Boulevard to the Carolands Substation. From Carolands Substation, the 230 kV line would emerge overhead and follow the alignment of the Partial Underground Alternative, cross to the west over I-280 at Tower 8/50 and proceed north up the west side of I-280 all the way to the transition station at San Bruno Avenue and Glenview Drive.

40-18

The existing overhead 60 kV line would be removed between the Jefferson Substation and the Millbrae Tap (near MP 12.4). Ralston and Carolands Substations would be served directly by the 230 kV circuit, while the loads served by Watershed and Crystal Springs Substations would be served from Ralston and Carolands, respectively, via new 12 kV distribution feeders.

It is electrically feasible to remove the double circuit overhead 60kV lines between the Jefferson Substation and the Millbrae Tap with only minor revisions to the remaining 60kV lines in the area and modifications to the four affected substations. The 60/12 kV transformers at Jefferson and Carolands would be converted to 230/12 kV. The Crystal Springs and Watershed Substations, which do not serve much load, could each be replaced with pad-mounted switchgear modules. The transformers at each substation could then be used at other parts of PG&E's system.

PG&E can remove the 60 kV system from the Jefferson Substation to the Millbrae Tap without affecting the integrity of the 60 kV system. The existing 60 kV system is interconnected and derived at (a) Jefferson Substation, from a 230 kV bus; (b) San Mateo Substation, from a 115 kV bus; and (c) Martin Substation, from a 115 kV bus. The 60 kV system is also interconnected through Millbrae Substation, which in turn is also interconnected to San Mateo and Martin Substations. The removal of the 60 kV line between Jefferson and Millbrae Tap would leave the 60 kV system interconnected at San Mateo, Millbrae and Martin Substations. Removing this section of the 60 kV circuit would not affect service to either the San Andreas or San Bruno Substations north of the Millbrae Tap, because the switch at the Millbrae Tap between it and Carolands is normally kept open (DEIR at B-27), and San Andreas and San Bruno are served from the Millbrae Substation or the Martin Substation.

In fact, by transferring the Ralston, Carolands, Watershed and Crystal Springs Substations from the 60 kV system to the new 230 kV system, the 60 kV system will be strengthened. The total load served by these four substations is presently 29.5 MVA. If this load were transferred to the 230 kV system, the existing 60 kV system would be relieved of that load to serve any additional local load growth. It would also relieve the step-down transformer at the Jefferson Substation for the possibility of enhanced service to Emerald Lake and Woodside Substations.

The WRA is superior to PG&E's Proposed Route 1A, the All Underground Alternative 1B, and the Partial Underground Alternative:

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(1) All of the exiting transmission towers south of the Carolands Substation would be removed, including within the San Francisco Watershed area. As a consequence,

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the WRA reduces EMF levels affecting the residents of the 280 Corridor. **40-19**

(2) The WRA also eliminates visual impacts of the Project on the affected communities south of the Carolands Substation, including within the San Francisco Watershed area. In addition, it eliminates visual impact of the Project north of the Carolands Substation (Tower 8/50) up to through Burlingame at milepost 10.7, because at Tower 8/50 the line would cross to the west side of I-280 and remain there until it rejoins the proposed route. This alternative has the advantages of avoiding major visual impacts due to the wooded terrain on the west side of I-280, and lack of identified sensitive habitats. **40-20**

(3) While the above-ground segment on the west side of I-280 would conflict with the San Francisco Watershed Management Plan, which prohibits the creation of new utility corridors and requires that new power lines be buried where feasible, 280 Citizens believes that this short additional segment of new towers on the west side of I-280 is mitigated by the removal of the existing towers south of Carolands within the SFPUC Watershed and provides a net environmental benefit, particularly to biological and visual resources. **40-21**

(4) The WRA restores the pastoral values of the I-280 Corridor from the Jefferson Substation north to MP 10.7, north of the Carolands Substation, including the San Francisco Watershed, thereby contributing to the scenic resources of the area which is a state-designated scenic corridor. **40-22**

(5) The WRA also reduces socio-economic impacts of the Project on the affected communities, from San Mateo north to Burlingame. **40-23**

(6) It better conforms to the community values of the communities in the 280 Corridor, including families investing in public facilities, schools, parklands and homes, while also conforming to the community values of San Francisco by making it possible for San Francisco to shut much of its old polluting in-city generation. **40-24**

(7) It reduces the cumulative impacts of the 230 kV line and the 60 kV line under CEQA. **40-25**

(8) It advances economic and environmental equity by balancing the benefits and burdens of the project to ensure that the environmental, health, safety, and economic benefits the project provides to the residents of San Francisco are not provided at the cost of imposing environmental, health, safety, and economic burdens on the residents of the 280 Corridor. **40-26**

The WRA has been analyzed to a significant degree by the DEIR because it follows the route of the Partial Underground Alternative in part and the route of Alternative 1B in part, both of which have been analyzed by the DEIR.

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Elements that have not been addressed include the impact on the system of removing the 60 kV line, which will provide substantial environmental and other benefits, and modifications to the Ralston and Carolands Substations. **40-27**

Analysis of these new elements and the WRA as a whole can and should be completed in the same time frame for inclusion in the Final EIR, thereby ensuring that the Commission will have sufficient time to analyze this alternative within the existing procedural schedule for the CPCN phase of this proceeding and meet the faux 2006 deadline adopted by the DEIR for installation.

In comparison to the WRA, Alternative 1B improves the environment within the City of San Francisco without improving, and at the expense of, the environment of communities and residents on the Peninsula: **40-28**

(1) It would impose construction impacts on residents of the 280 Corridor without providing any corresponding benefit.

(2) It would force residents in some neighborhoods to live between two different sets of high-voltage transmission lines, the existing overhead 60 kV line immediately to the west and the proposed underground 230 kV line immediately to the east. The DEIR fails utterly to consider the cumulative impacts of the existing 60 kV line and the new 230 kV line.

(3) It would increase EMF exposure and thereby threaten the health and safety for residents living in the vicinity of the new 230 kV line.

(4) It would impose an additional 230 kV line in residential areas and conflict with existing land uses and community values.

(5) It would do nothing to reduce the severe adverse visual impacts of PG&E's existing 60 kV transmission system on communities, residents, recreational, scenic and pastoral values on the Peninsula.

(6) It would have a significant adverse effect on property values in residential areas, an impact not raised or analyzed in the DEIR's section on socioeconomic impacts. [DEIR at § D.13]

VIII. <u>The Partial Underground Alternative Is Also Superior To Both The Proposed Project And The All Underground Alternative 1B</u> **40-29**

The DEIR is correct in determining that the Partial Underground Alternative is superior to Proposed Route 1A, but incorrect in finding that it is inferior to the All Underground Alternative 1B

In order to reduce the EMF to safe levels, the underground 230 kV and 60 kV lines must be collocated sufficiently far from residences to ensure that the EMF level at the edge of

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residence properties will be no higher than 1 mG. In some areas this will require shifting the location of the underground duct bank at least 50-100 feet west of the existing 60 kV right of way, because the addition of the 230 kV line, even underground, will produce much higher EMF levels. As the DEIR defines the Partial Underground Alternative, it would site the underground lines too close to homes to be considered safe. **40-29**

In the areas in the San Mateo Highlands, Hillsborough and Burlingame, locating the underground duct bank to the west of the existing 60 kV right of way does not appear to present an unmitigatable environmental impact due to serpentine habitat. The DEIR states that implementation of recommended mitigation measures will reduce impacts to serpentine plant assemblages to less than significant levels where the duct bank is underground in the existing dirt access road and firebreak that runs along the existing 60 kV right of way between the Ralston and Carolands Substations. (DEIR at D.4-57-58) The understanding of 280 Citizens is that while unique serpentine habitat is present and significant in Edgewood Park, in the already disturbed areas adjacent to homes in the San Mateo Highlands, Hillsborough and Burlingame serpentine soils are present to some degree but they do not support unique serpentine flora and fauna to the same extent, making one-time construction in these areas much less significant.

One apparently feasible location for undergrounding the lines that was not analyzed in the DEIR is in the firebreak along the eastern edge of I-280. That strip of land is already disturbed by annual disking of a firebreak, so one-time trenching to collocate the lines there would not cause incremental damage to otherwise pristine serpentine habitat. That location would be far superior from an environmental standpoint to the dirt road that runs under the existing 60 kV towers, because that road is within 50 feet of many of the homes between the Ralston Substation and Trousdale Drive.

Regardless of the actual trench location selected, the Partial Underground Alternative must be refined to mandate the use of a triangular configuration that places the Phases A, B, and C at equal distances from each other. This configuration introduces a cancellation effect of the electromagnetic fields generated. **40-30**

Although the Partial Underground Alternative is inferior to the WRA on both environmental and CPCN factors, it is superior to Proposed Route 1A and Alternate 1B for many of the same reasons the WRA is superior to them: **40-31**

(1) Many of the existing transmission towers south of the Carolands Substation would be removed, including in the San Francisco watershed area. As a consequence, it reduces EMF impacts on the residents of the 280 Corridor, provided that the line is placed underground further west than the present location of the overhead line. While the Partial Underground Alternative would not eliminate EMF impacts on residential areas as would the WRA, it would be far superior to either Proposed Route 1A or Alternative 1B because it would still reduce EMF impacts.

(2) It also reduces visual impacts of the Project on the affected communities

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(3) It also reduces socio-economic impacts of the Project on the affected communities.

(4) It better conforms to the community values of the communities in the 280 Corridor, while also conforming to the community values of San Francisco

(5) It partially restores the pastoral values of the I-280 Corridor, which is a state-designated scenic corridor, and the San Francisco watershed, thereby contributing to the scenic resources of the area.

(6) It reduces the cumulative impacts of the 230 kV line and the 60 kV line under CEQA.

(7) It advances economic and environmental equity by balancing the benefits and burdens of the project to ensure that the environmental, health, safety, and economic benefits the project provides to the residents of San Francisco are not provided by imposing environmental, health, safety, and economic burdens on the residents of the 280 Corridor.

40-31

IX. Conclusion

280 Citizens appreciates the desire of the residents of San Francisco to live without electric generation facilities in the city, even state-of-the art generation facilities that produce more power with significantly less pollution than the generation currently operating in San Francisco. San Francisco's desire to reduce air emissions and enhance environmental quality within City boundaries should not, however, be mistaken as establishing need in the traditional sense under Public Utilities Code section 1001. Nor can it provide sufficient grounds to inappropriately attenuate the scope of the Commission's consider of the broader public interest considerations under Public Utilities Code sections 1001 and 1002, or of feasible alternatives under CEQA that better meet project objectives and the broader public interest.

40-32

This is a case in which the Commission can, and should, fairly allocate the benefits and burdens of the proposed project. The project need not and should not be permitted to benefit San Francisco at the expense of communities and residents on the Peninsula. The Commission can, and should instead, adopt an alternative that better balances benefits and burdens and improves the environment in both San Francisco and the 280 Corridor of the San Francisco Peninsula.

The Project provides significant environmental, health, safety and economic benefits to the residents of San Francisco, including enabling it to close the Hunters Point Plant and potentially close the existing Potrero Plant units.

Both PG&E's Proposed Project and the All Underground Alternative 1B would, however, impose significant environmental, health, safety and economic burdens on the residents of the 280 Corridor--including increased EMF levels on homes, continued or increased visual impacts, negative impacts on socioeconomic values, and severe impacts on community values of

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the 280 Corridor communities—to permit San Francisco to close its power plants. In addition, both PG&E's Proposed Project and the All Underground Alternative 1B would squander the historic opportunity this Project provides to reduce the severe adverse impacts of PG&E's existing 60 kV line on residential areas and on the scenic and pastoral values along the 280 Corridor. **40-32**

The Watershed Restoration Alternative appropriately balances the benefits and burdens of the Project and provides a win-win design maximizing benefits for the residents of San Francisco while minimizing burdens on the communities and residents of the 280 Corridor and eliminating the most significant adverse effects of PG&E's existing 60 kV line on residential areas and scenic, recreational and pastoral values on the Peninsula. Additional analysis and consideration should therefore be given in the Final EIR to this additional alternative and for the reasons discussed herein, it should be found the environmentally superior alternative. **40-33**

The Partial Underground Alternative, if modified to incorporate the features discussed in these comments, is also far superior to either PG&E's Proposed Route 1A or the All Underground Alternative 1B, but is inferior to the Watershed Restoration Alternative, on both environmental grounds and based on the broader factors that the Commission must consider in exercising its authority under Public Utilities Code sections 1001 and 1002 to determine whether and on what conditions a CPCN should be granted for the Project. Additional consideration should be given in the FEIR to the additional issues discussed herein regarding this alternative, and it too should be found environmentally superior to both PG&E's Proposed Route 1A and the All Underground Alternative 1B. **40-34**

Very truly yours,

Davis Wright Tremaine LLP

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cc: Susan Lee, Aspen Environmental
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Assigned Commissioner Loretta M. Lynch
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September 18, 2003

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Re: Response of 280 Corridor Concerned Citizens to the Data Request Regarding Jefferson Martin Response to DEIR Comments, Application No. 02-09-043

Dear Ms. Blanchard:

The 280 Corridor Concerned Citizens Group ("280 Citizens") is pleased to respond to your September 15, 2003 data request, which seeks clarification on specific aspects of the Watershed Restoration Alternative (sometimes referred to as the "WRA") which 280 Citizens described in its comments on the Draft EIR.

40-18 continued

One general area of concern expressed in the data request is whether the Ralston and Carolands substations can be expanded to include the new equipment that would be required under the WRA (Questions 2b, 2c, 3a, 3b, and 3c). A second general area of concern is what routes would be used for various proposed transmission lines (Questions 1, 2a). A third general area of concern is whether the remaining 60 kV system in the I-280 Corridor can meet transmission planning criteria with the WRA in place.

There are a number of solutions to the problems highlighted by Staff's questions. In our answers to the questions below, we provide suggested solutions to all of the potential problems highlighted by Staff's questions. In most instances, the solutions we propose involve only clarification of certain aspects of the WRA which may not have been set forth in sufficient detail in our initial comments on the Draft EIR. In a few instances, the solutions we offer include refinements to the WRA to address problems revealed by Staff's questions.

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280 Citizens believes that the WRA is technically feasible and will improve the existing 60 kV system, while providing a number of significant environmental benefits when compared to the other alternatives being evaluated by Staff. In addition, it will significantly reduce potentially significant adverse visual impacts of PG&E's Proposed Route, numerous adverse impacts on a number of residential areas, and will enhance the environment by reducing the number of transmission towers and miles of overhead lines in sensitive areas on the Peninsula. Accordingly, 280 Citizens urges the Commission to fully evaluate the WRA, with the clarifications and refinements set forth in this response, in its Final EIR for this project.

40-18 continued

A. OVERVIEW OF THE FOUR AFFECTED SUBSTATIONS

The total load served by the Ralston, Carolands, Watershed and Crystal Springs Substations is approximately twenty-nine megawatts (29 MW). As described below, under the WRA, as we have refined it, all of this load would be served by the proposed new 230 kV Transmission line. The new 230 kV line would connect directly to the Ralston Substation and then serve the Carolands (9 MW of load), Watershed (1.5 MW of load), and Crystal Springs Substations (3 MW of load) via 12 kV feeder circuits. This configuration eliminates the need to connect the proposed 230 kV line directly to the Carolands Substation and allows for the removal of the existing overhead 60 kV line and towers between Jefferson Substation and the Millbrae Tap, a distance of approximately 12.5 miles.

This configuration refines the WRA in two ways to solve problems revealed by Staff's questions. First, it provides for the Carolands Substation to be served from Ralston Substation via 12 kV feeders instead of being served by the 230 kV line. Second, the Crystal Springs Substation would be served via 12 kV feeders from the Ralston Substation rather than via 12 kV feeders from the Carolands Substation.

These refinements to the WRA are based on additional investigation and analysis that indicates that there is insufficient space at or immediately contiguous to the Carolands Substation to add the new equipment that would be necessary to serve the Carolands Substation via a 230 kV line. Serving Carolands with two 12 kV feeders eliminates the need to include two transition stations, 230/4 kV transformers, a ring bus configuration, and related equipment at the Carolands Substation, thereby fully resolving concerns regarding available space at this location. This refinement also makes it possible to keep the new 230 kV line on the west side of I-280 north of Golf Course Road/Hayne Road, thereby eliminating two crossings of I-280 and keeping the 230 kV line away from residential neighborhoods.

RALSTON SUBSTATION: The Ralston Substation currently serves approximately 16 MW of load. It covers approximately a half-acre (120 feet by 200 feet). It includes two transformers, the voltage of which we believe to be 60/12 kV.

CAROLANDS SUBSTATION: The Carolands Substation serves approximately 9 MW of load. It has two transformers. We believe, but have been unable to confirm, that they are 60/4

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kV transformers, because the distribution feeders are marked 4 kV. If the Carolands distribution system is indeed a 4 kV system, it is antiquated. 4 kV distributions systems have been replaced with the more standard 12 kV systems in nearly all sectors of the United States, because serving load at 4 kV is unnecessarily expensive and inefficient. Compared to a 12 kV distribution system, a 4 kV distribution system is much less efficient and suffers from higher line losses, higher transformation losses, and higher EMF levels, because the current in a 4 kV system has to be higher to carry the same amount of electricity that a 12 kV system carries. The EMF levels as a result of the high current levels required on the 4 kV system were measured at over 100 mG at gate of the home just north of the Carolands Substation, and measured between 7 and 8 mG at the front doors of both houses to the north of the substation.

40-18 continued

WATERSHED SUBSTATION: The Watershed Substation is located at MP 2.7. It is approximately 0.3 miles off Canada Road via a dirt road. It currently serves approximately 1.5 MW of load that is primarily water pumping load. We believe it includes one 60/12 kV transformer and serves its load with a 12 kV distribution system.

CRYSTAL SPRINGS SUBSTATION: The Crystal Springs Substation is nestled at the base of the Crystal Springs Dam on the west side of Skyline Boulevard at approximately MP 6.8. It is approximately 50 yards west of Skyline Boulevard and approximately 100 yards south of Crystal Springs Road. It presently serves approximately 3 MW of load that is primarily water pumping load. The existing substation is served from a tap on the existing double circuit 60 kV transmission line. It includes one transformer, the voltage of which we believe to be 60/12 kV.

B. DETAILED DESCRIPTION OF WATERSHED RESTORATION ALTERNATIVE WITH REFINEMENTS TO SOLVE PROBLEMS RAISED BY THE QUESTIONS

230 KV LINE: From the Jefferson Substation to Golf Course Road/Hayne Road, the 230 kV line would follow the All Underground Alternative 1B alignment underground in Canada Road and Skyline Boulevard to Golf Course Road/Hayne Road (MP 8.25). Instead of crossing under I-280 to the east at Golf Course Road/Hayne Road, the 230 kV line would continue north on the west side of I-280. A transition station would be located at a suitable site in the vicinity of the south end of the Crystal Springs Golf Course (near MP 8.6). From the transition station, the 230 kV line would continue overhead on the west side of I-280, from MP 8.9 along the alignment of the Partial Underground Alternative up to Sneath Lane Substation, where it would transition underground as proposed by the Cities of San Bruno, Millbrae, and Burlingame and San Mateo County.

SERVE RALSTON SUBSTATION WITH THE 230 KV LINE: The Ralston Substation would be served directly by the new 230 kV circuit. At approximately MP 5.3, about 300 feet north of where Highway 92 and Canada Road/Skyline Boulevard intersect, the 230 kV line would cross east under I-280. For reference, at that location there is an overhead distribution line and overhead telecommunication line that cross I-280 and proceed to a point near the Ralston Substation. (North of Highway 92, Canada Road becomes Skyline Boulevard.) That existing right of way would be used to traverse the area between I-280 and the Ralston Substation. There

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is a two-track road that runs from the water tank immediately north of the Ralston Substation to the edge of the ridgeline going down to I-280 that would be used for the underground trench as it approaches the substation. We believe the existing overhead utility lines utilize this two-track road.

40-18 continued

To complete this interconnection with the Ralston Substation, I-280 will need to be bored, but the distance between the north and south lanes is sufficient to make this under-cut crossing feasible. The remaining area between I-280 and the Ralston Substation is primarily grassland. In this area, the line could be undergrounded through conventional trenching. This trenching would produce one-time impacts to the grasslands. Use of the two-track road for the trench would reduce the amount of grassland that would have to be trenched and would mitigate the impact of construction on the surrounding grasslands. A detailed description of the equipment changes required at the Ralston Substation is provided in Section C below.

REMOVE 60 KV LINE: The existing double-circuit overhead 60 kV line would be removed for a distance of over 12 miles, from the Jefferson Substation to the Millbrae Tap (near MP 12.4).

SERVE CAROLANDS, WATERSHED AND CRYSTAL SPRINGS SUBSTATIONS FROM RALSTON SUBSTATION: The Carolands, Watershed and Crystal Springs Substations would be served from Ralston Substation via three new 12 kV distribution feeders that would originate at Ralston Substation. From Ralston west to Skyline Boulevard they would be co-located with the 230 kV line in the underground trench (with appropriate separation from the 230 kV duct bank) that would connect Ralston Substation to Skyline Boulevard. The location of that trench between Ralston Substation and Skyline Boulevard is described above and in response to Question 2a below.

To serve the Watershed Substation, from the point where the 230 kV line and the three 12 kV feeders from Ralston Substation reach Skyline Boulevard (at MP 5.3), one of the 12 kV feeders would travel south in the 230 kV trench (with appropriate separation from the 230 kV duct bank) to approximately MP 2.7 in Canada Road. The 12 kV feeder would then leave the 230 kV trench and travel east underground 3/10 ^{ths} of a mile in the dirt road from Canada Road into Watershed Substation. If the Watershed distribution system is at 12 kV, the new 12 kV feeder would tie directly into the system without the need for a new transformer and the existing transformer would be removed. If the Watershed distribution system is at 4 kV then the existing transformer would need to be replaced with a 12/4 kV transformer. Unlike a 230 kV circuit, the 12 kV feeder would be brought directly into the transformer without the need for a separate transition structure.

To serve the Carolands Substation, from the same intersection point on Skyline Boulevard at MP 5.3, the other two 12 kV feeders would travel north in the 230 kV trench (with appropriate separation from the 230 kV duct bank) in Skyline Boulevard to the transition station that would be located at a suitable site in the vicinity of the south end of the Crystal Springs Golf Course (near MP 8.6). Both the 230 kV line and the two 12 kV feeders would transition

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overhead at that point. While the 230 kV line would travel north on the west side of I-280, the two 12 kV feeders would cross east over I-280 to Carolands Substation. In an alternative configuration, the 12 kV circuits could cross east under I-280 in Golf Course Road and continue underground in Skyline Boulevard into Carolands Substation with no transition required.

40-18 continued

The same two 12 kV feeders that would serve Carolands Substation would also serve Crystal Springs Substation, which they would pass as they travel north in Skyline Boulevard. At a suitable location near the intersection of Skyline Boulevard and Crystal Springs Road (MP 7.0), the 12 kV feeders would be tied onto pad-mounted switch gear. From the pad-mounted switch gear two 12 kV tap feeders would be installed and run underground 0.2 miles west in Crystal Springs Road to where the overhead 60 kV line crosses the road. At that point, both 12 kV feeders would be installed on a riser pole and interset on the existing 60 kV circuit poles into the substation. Initially, one of the 12 kV feeders would be underbuilt on the existing 60 kV circuit poles into the substation, to provide a single-circuit 12 kV feeder to it. Once the necessary modifications are made to the substation equipment, the substation would be energized at 12 kV off of that first feeder. The existing 60 kV circuit conductors would be left in place, de-energized and then re-energized at 12 kV to provide a second 12 kV circuit to the substation.

C. MODIFICATIONS REQUIRED AT EACH OF THE SUBSTATIONS UNDER THE WRA

RALSTON SUBSTATION: The 230 kV line would enter the Ralston Substation underground, as described above, to a transition structure and then to a 230 kV ring bus configuration. The existing transformers would be replaced with two 33 MVA 230/12 kV transformers which would interconnect with the existing 12 kV feeders that exit Ralston to serve existing load. The 230 kV line would then go through a second transition structure, exit the substation, and return underground to Skyline Boulevard in the same trench as the incoming 230 kV line (with appropriate separation between both 230 kV duct banks). Three additional 12 kV feeders would be installed in Ralston to serve the Watershed, Crystal Springs, and Carolands Substations. Those three 12 kV feeders would exit the substation and travel underground to Skyline Boulevard in the same trench as the incoming and outgoing 230 kV lines (again with appropriate separation between both 230 kV duct banks and the 12 kV feeders).

We concur with Staff's assessment that a ring bus configuration for 230 kV circuits and transformers is prudent to insure the integrity of the 230 kV transmission line at the Ralston Substation along with the proposed transformers, distribution protection, and the related and proposed 12 kV feeders. These modifications will require additional space at the Ralston Substation, but we believe no more than one additional acre will be required, not three additional acres. By comparison, the Ralston Substation currently covers only a half acre. DEIR Figure B-14 shows that there is room to expand the size of the substation. We are preparing a feasible proposed lay-out for the new Ralston Substation facilities, but it will not be completed until next week. We will deliver it to you as soon as it is completed.

CAROLANDS SUBSTATION: At Carolands Substation, the two existing 60/4 kV transformers would be replaced by two 12/4 kV transformers. We believe the existing

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transformers could be switched out alternatively and thereby avoid the need to create additional space for the new transformers. The equipment replacement would occur as follows:

40-18 continued

(1) Transfer all the incoming electricity to one of the existing 60/4 kV transformers or, in the alternative, transfer all of the distribution load to another substation that is interconnected to the load;
(2) Replace the other transformer;
(3) Shift the distribution load over to the newly installed 12/4 kV transformer; and
(4) Replace the first 60/4 kV transformer.

If the replacement of both transformers is performed simultaneously, the entire substation will have to be de-energized. This can be done without affecting service to the distribution load normally served by Carolands Substation, apparently because the various distribution systems in the area are interconnected via distribution lines. PG&E plans to de-energize the 60 kV line to relocated it to the new towers if its proposed project is approved (DEIR B-56), confirming that service to the Carolands 4 kV distribution system can be maintained when Carolands is de-energized. The two 12 kV feeders will enter Carolands overhead. No transition station would be needed at or near Carolands Substation.

WATERSHED SUBSTATION: We assume that the existing Watershed Substation transformers are 60/12 kV and therefore this new 12 kV feeder would tie directly to the existing load. If, instead, the Watershed Substation load is served via 4 kV feeders, a small 12/4 kV transformer would need to be installed in the substation. The existing 60/12 kV transformer(s) would be removed.

CRYSTAL SPRINGS SUBSTATION: We also assume that the existing Crystal Springs Substation transformers are 60/12 kV. If that is correct, as with the Watershed Substation, the new 12 kV feeders would tie directly to the existing load. If the Crystal Springs Substation load is served via 4 kV feeders, a small 12/4 kV transformer would need to replace the 60/4 kV transformer.

D. ANSWERS TO QUESTIONS

1. **What routes would the 12 kV feeders follow from Ralston Substation to Watershed Substation and from Carolands Substation to Crystal Springs Substation?**

Under the refinements to the WRA discussed above, Watershed, Carolands, and Crystal Springs Substations would all be served from Ralston Substation via 12 kV feeders.

Three 12 kV feeders would emerge from the Ralston Substation underground and be co-located with the 230 kV lines (with appropriate separation from each of the two 230 kV duct banks) in the underground trench that would run between Ralston Substation and Skyline Boulevard. The precise location of that trench is discussed in response to Question 2a below.

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The routes of each of these 12 kV feeders are described separately in the following three sections.

40-18 continued

a. **12 kV Feeder From Ralston Substation to Watershed Substation**

From the point where the 230 kV line and the three 12 kV feeders from Ralston Substation reach Skyline Boulevard (at MP 5.3), one of the 12 kV feeders would travel south in the 230 kV trench (with appropriate separation from the 230 kV duct bank) to approximately MP 2.7 in Canada Road. The 12 kV feeder would then leave the 230 kV trench and travel east 3/10 ^{ths} of a mile underground in the dirt road from Canada Road into Watershed Substation.

From Ralston Substation, the 12 kV feeder would travel approximately 3.6 miles to the Watershed Substation; however, all but 0.3 miles would be in a common trench with the 230 kV duct bank. This refinement to the WRA eliminates the need for either a separate underground trench or 3.6 miles of wood poles and overhead lines, while enabling the removal of 12.5 miles of overhead 60 kV lines and towers.

b. **Two 12 kV Feeders From Ralston Substation to Carolands Substation**

From the point where the 230 kV line and the 12 kV feeders from Ralston Substation reach Skyline Boulevard (at MP 5.3), two of the 12 kV feeders would travel north in the 230 kV trench (with appropriate separation from the 230 kV duct bank) in Skyline Boulevard to the transition station that would be located at a suitable site in the vicinity of the south end of the Crystal Springs Golf Course (near MP 8.6). Both the 230 kV line and the two 12 kV feeders would transition overhead at that point. While the 230 kV line would travel north on the west side of I-280, the two 12 kV feeders would cross east over I-280 to Carolands Substation. Alternatively, the 12 kV circuits could cross east under I-280 in Golf Course Road and continue underground in Skyline Boulevard into Carolands Substation with no transition required.

From Ralston Substation, the two 12 kV feeders that serve the Carolands Substation would travel approximately 4.5 miles to Carolands. All but the 2/10 ^{ths} of a mile of the line into Carolands would be in a common trench with the 230 kV duct bank. This refinement to the WRA eliminates the need for either a separate underground trench or 4.5 miles of wood poles and overhead lines. In addition, by using the same transition station to transition both the two 12 kV feeders and the 230 kV line to overhead near the vicinity of the south end of the Crystal Springs Golf Course eliminates the need for additional transition structures.

c. **Two 12 kV Feeders From Ralston Substation to Crystal Springs Substation**

The same two 12 kV feeders that would serve Carolands Substation would also serve Crystal Springs Substation. The only incremental addition would be the 0.2 to 0.3 miles that the 12 kV tap feeders would run from the trench in Skyline Boulevard west in Crystal Springs Road to the existing 60 kV overcrossing and from there down to the substation.

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2. Regarding the WRA's use of Ralston Substation as a 230 kV/12 kV substation, please clarify the following:

a. Canada Road (where the underground 230 kV line would be installed) is approximately 1,200 feet west of the Ralston Substation. What route would be followed for the two 230 kV underground lines that would connect to Ralston Substation (one line to Ralston and one line from Ralston)?

40-18 continued

At approximately MP 5.3, about 300 feet north of where Highway 92 and Canada Road/Skyline Boulevard intersect, the 230 kV line would cross east under I-280. For reference, at that location there is an overhead distribution line and overhead telecommunication line that cross I-280 and proceed to a point near the Ralston Substation. (North of Highway 92, Canada Road becomes Skyline Boulevard.) That existing right of way would be used to traverse the area between I-280 and the Ralston Substation. There is a two-track road from the water tank immediately north of the Ralston Substation to the edge of the ridgeline going down to I-280 that would be used for the underground trench as it approaches the substation. We believe the existing overhead utility lines utilize this two-track road.

I-280 will need to be bored, but the distance between the north and south lanes is sufficient to make this under-cut crossing feasible. The remaining area between I-280 and the Ralston Substation is primarily grassland and the line could be installed in this area using conventional trenching. This trenching would produce one-time impacts to the grasslands. Use of the two-track road for the trench would reduce the amount of grassland that would have to be trenched and would mitigate the impact of construction on the surrounding grasslands. From MP 5.3 in Skyline Boulevard, we estimate the distance to be about 0.8 miles to the Ralston Substation. Some of this distance would be on the two-track road rather than in the grassland.

b. Please confirm that in order for the 230 kV connections to the Ralston Substation to occur, two overhead-underground transition stations or structures would be required at Ralston.

We agree that some type of transition structures would be required at Ralston Substation.

c. Please confirm that a ring bus configuration would be required at the Ralston Substation to allow protection of the 230 kV circuit from disruption on the 12 kV circuit. If not a ring bus, what other protection for the 230 kV line is envisioned?

We agree that a ring bus configuration or similar protection scheme at Ralston Substation to protect the 230 kV circuit from disruption is a prudent design feature. We believe that accommodation of that equipment along with the transition structures, transformers, distribution protection, and the related and proposed 12 kV feeders would require no more than one acre,

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rather than the three acres that are suggested. Note that the Ralston Substation currently is only about one-half acre (125 feet x 200 feet).

40-18 continued

3. **Regarding the WRA's use of Carolands Substation as a 230 kV/12 kV substation, please clarify the following:**

   a. **Carolands Substation is an extremely constrained site. How would the 230/12 transformers fit at this site?**

Based on our additional investigation and analysis, we have concluded that there is insufficient space at Carolands Substation to accommodate 230/12 kV or 230/4 kV transformers, ring bus or other protection equipment or transition structures. The refinement to the WRA under which Carolands, Watershed and Crystal Springs Substations are all served from Ralston Substation via 12 kV feeders primarily co-located in the 230 kV trench in Canada Road and Skyline Boulevard solves this problem by eliminating the need for 230/12 kV or 230/4 kV transformers, new protection equipment and transition structures at Carolands Substation, because the 230 kV line would not connect to Carolands.

Based on our investigation, we believe that the two existing transformers at Carolands Substation are 60/4 kV, not 60/12 kV. Under the refinement just described, the two existing transformers would be replaced with two 12 kV/4 kV transformers. Since the two 12 kV feeders would enter Carolands overhead, there will be no need for transition structures at the substation. And, since the 230 kV line would not connect to Carolands, there will be no need for a ring bus configuration at Carolands, eliminating the need to expand the size of the substation.

   b. **Please confirm that a ring bus would also be required here, and explain where it would be located. If not a ring bus, what other protection for the 230 kV line is envisioned?**

If the Carolands Substation is served with 12 kV circuits constructed from the Ralston Substation, then a ring bus is not needed at Carolands Substation, because Carolands will not be served by the 230 kV line.

   c. **Please confirm that one overhead/underground transition station or structure would be required at Carolands, and explain where it could be sited.**

Under the refinements to the WRA discussed above, a transition station would not be needed at the Carolands Substation, because Carolands will not be served by the 230 kV line.

Because the 230 kV line will not serve Carolands, there will be no need for the 230 kV line to cross to the east side of I-280 at Golf Course Road/Hayne Road. Instead, the line can remain on the west side of I-280. This will eliminate two crossings of I-280, one underground at Golf Course Road/Hayne Road and one overhead at Tower 8/50. Since the 230 kV line will

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remain on the west side of I-280, a transition station will be needed on that side of I-280, at a suitable site in the vicinity of the south end of the Crystal Springs Golf Course.

40-18 continued

4. **How does the WRA plan reconfigure the remaining 60 kV system so that it will be capable of meeting the remaining 60 kV loads in accordance with NERC and WECC transmission planning criteria?**

The WRA relieves the existing 60 kV system along the I-280 Corridor of approximately 29 MW of load.

With the WRA, there are still three (3) 115/60 kV transformers (Martin #1, and San Mateo #4 and #7) as a resource or supply to the remaining load of Half Moon Bay, Pacifica, Sneath Lane, San Bruno, San Andreas, Beresford, Millbrae, and Burlingame Substations, and one (1) 230/60 kV transformer (Jefferson) as a resource or supply to loads of Emerald Lake and Woodside Substations. We do not know the 115/60 kV transformer capacities or the related 60/12-4 kV transformer capacities, but assume that these transformers have at least twice the required capacity needed with the reduced load that would be the result of relieving the 60 kV system of 29 MW of load.

There are still three (3) 60 kV distinct loops or rings in the WRA. The first is an existing 60 kV transmission line connecting the San Mateo Substation to Beresford-Hillsdale Junction-Half Moon Bay-Pacifica-Martin. The second is the existing 60 kV transmission line segments San Mateo-Beresford-Hillsdale Junction-Half Moon Bay-Pacifica-Sneath Lane-San Bruno-San Andreas-Millbrae-Martin. The third is the existing 60 kV transmission line segments San Mateo-Burlingame-Millbrae-San Andreas-San Bruno-Pacifica.

If the Jefferson-Ralston-Hillsdale Jct.-Carolands 60 kV line were removed, Carolands, Crystal Springs, Ralston, Watershed, Emerald Lake, and Woodside would continue to be served from Jefferson, albeit through a different combination of 230 kV, 60 kV and 12 kV circuits. Sneath Lane and Pacifica currently receive primary service from San Mateo (via Burlingame and Millbrae through the Millbrae Tap) and from Martin, and would continue to do so.

It appears that only three substations (Beresford, Hillsdale, and Half Moon Bay) that currently receive primary service from Jefferson via the Jefferson-Ralston-Hillsdale Jct. line would have to receive primary service from another substation, most likely San Mateo via the San Mateo #7 line. There is no condition apparent that precludes reliable service to those three substations from San Mateo. For example, the Hillsdale Junction-Half Moon Bay 60 kV circuit clearly has sufficient capacity to serve Half Moon Bay, because it serves Half Moon Bay now. The only change in serving Half Moon Bay in those circumstances is that the power would originate at San Mateo Substation rather than Jefferson Substation. Backup service to Half Moon Bay, Hillsdale and Beresford would be available via the Sneath Lane-Pacifica-Half Moon Bay line.

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A detailed power flow analysis will be required to confirm this, but it appears from the information we have that the 60 kV system is in very good shape for outage coverage and N-1 Contingencies.

40-18 continued

In order to clarify the preceding descriptions, we are attaching three diagrams: (1) a single-line diagram of PG&E's existing transmission system; (2) a single-line diagram of the transmission system with the Watershed Restoration Alternative in place; and (3) an overview diagram/map showing the Watershed Restoration Alternative.

5. Please review the draft maps we have developed for this suggested alternative to see if they accurately display the alternative you have suggested. (These maps will be delivered to your office in hard copy.)

The draft maps of the WRA do not accurately reflect the WRA. The maps should be revised in the following respects to reflect the WRA with the clarifications and refinements discussed in this response.

First, with respect to the Watershed Substation, the draft map states, "to be served with 12 kV feeder from Ralston. 12 kV overhead route not defined." This is no longer accurate. In this response, 280 Citizens has clarified the proposed route for the 12 kV feeder from the Ralston Substation to the Watershed Substation under the WRA. It would be co-located underground together with the 230 kV line along Canada Road to a point immediately west of the Watershed Substation from which point the 12 kV feeder would run approximately 0.3 miles either underground in the dirt road that runs from Canada Road to the substation. The notation on the draft map regarding the Watershed Substation should accordingly be revised to read, "to be served with 12 kV feeder co-located with new 230 kV line from Ralston down Canada and underground in existing dirt road between Canada and substation"

Second, with respect to the Ralston Substation, the map states, among other things, "Underground 230 kV connection to Ralston Substation; route not defined." This is no longer accurate. In this response, 280 Citizens has clarified the route for the interconnection between the new 230 kV lines and the Ralston Substation under the WRA At a point about three hundred feet (300') north of the Highway 92/Canada Road/Skyline Boulevard intersection there is an overhead distribution line and overhead telecommunication line crossing I-280 and proceeding to a point near the Ralston Substation. The 230 kV lines, and the proposed 12 kV underground feeders mentioned above, would follow this existing utility right of way from Skyline Boulevard to the Ralston Substation, utilizing the two-track road that extends from the water tank immediately north of the Ralston Substation west into the watershed in order to mitigate impacts on the grasslands. Both would be undergrounded along this alignment for a distance of approximately 0.8 miles from Skyline Blvd to the substation. The notation on the draft map regarding the Ralston Substation should accordingly be revised to read, "Underground 230 kV connection to Ralston Substation; route underground along existing utility right of way and two-track road."

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40-18 continued

Third, with respect to the Ralston Substation, the map states, among other things, "Replace 60/12 transformer with 230/12 transformer (requires about 3 acres of land added to substation) . . . Add two overhead/underground 230 kV transition structures." This is not entirely accurate. Under the WRA, the transformers at the Ralston Substation would be replaced with 230/12 transformers and since both the 230 kV lines and the additional proposed 12 kV feeders would be undergrounded entering into the Ralston Substation, additional transition structures would be required. 280 Citizens estimates, however, that these additional facilities would require no more than one acre, rather than the three acres that are suggested. The notation on the draft map regarding the Ralston Substation should accordingly be revised to read, "Replace 60/12 transformers with 230/12 transformers (requires no more than 1 additional acre of land). . . Add two overhead/underground 230 kV transition structures."

Fourth, with respect to the Ralston Substation, the map states, among other things, "Serve Watershed Substation and local load with 12 kV." This is no longer entirely accurate. Under the WRA, as clarified in this response, the Ralston Substation would serve not only the Watershed and local load with 12 kV, but would also serve Crystal Springs and Carolands and local load with 12 kV. The notation on the draft map regarding the Ralston Substation should accordingly be revised to read, "Serve Watershed Substation, Crystal Springs and Carolands Substations with 12 kV."

Fifth, with respect to the Hillsdale Junction, the map states, "Hillsdale Junction Substation: changes not defined. Assumed to be unnecessary under WRA." This is not accurate. The Hillsdale Junction will still be required to interconnect the existing 60 kV line from San Mateo, Beresford and Hillsdale Substations to Half Moon Bay Substation. The notation on the draft map regarding the Hillsdale Substation should accordingly be revised to read, "The Hillsdale Junction will remain interconnected with Hillsdale Substation and Half Moon Bay Substation."

Sixth, with respect to the Crystal Springs Substation, the map states, "Crystal Springs Substation: to be served with 12 kV feeder from Carolands. Route of line not defined." This is no longer entirely accurate. Under the WRA, as clarified in this response, the Crystal Springs Substation would be served from the Ralston Substation by a 12 kV feeder co-located with the new 230 kV line underground along Skyline Boulevard. At the intersection of Skyline Boulevard and Crystal Springs Road (MP 7.0), two 12 kV tap feeders would run underground west 0.2 miles from the Ralston-Carolands 12 kV feeders in Skyline Boulevard through Crystal Springs Road to where the overhead 60 kV line crosses the road. At that point, both 12 kV feeders would be installed on a riser pole and interset on the existing 60 kV circuit poles into the substation. The first 12 kV circuit would be underbuilt on the 60 kV poles. The second 12 kV circuit would be energized on the 60 kV circuit after it is de-energized. The notation on the draft map regarding the Crystal Springs Substation should accordingly be revised to read, "Crystal Springs Substation: to be served with two 12 kV feeders from Ralston. Route to follow underground in Skyline Boulevard and Crystal Springs Road to underbuilt overhead line on existing 60 kV towers crossing Crystal Springs Road."

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Seventh, with respect to the Carolands Substation, the map states, among other things, "Carolands Substation: Replace 60/12 transformer with 230/12 transformer (requires about 3 acres of land added to substation)." This is no longer accurate. Since filing its initial comments on the DEIR, 280 Citizens has further reviewed the Carolands Substation and determined that it is insufficient in size to accommodate the additional facilities that would be required under the WRA as originally configured. The physical constraints at Carolands can be overcome, however, with the refinements to the WRA set forth in this response. Under the WRA as clarified, the Carolands Substation would be served by two new 12 kV feeders from the Ralston Substation and would not be served by either the existing 60 kV line, which would be removed, or the new 230 kV line, which would remain on the west side of I-280. As a result, Carolands will require only the addition of two 12/4 kV transformers in lieu of some of the existing transformers at the site, and no transition stations. The notation on the draft map regarding the Carolands Substation should accordingly be revised to read, "Carolands Substation: to be served with two 12 kV circuits from Ralston Substation. The two 12 kV circuits will be co-located in same underground trench as 230 kV line up to transition station across I-280 from Carolands and travel over I-280 to Carolands."

40-18 continued

Eighth, with respect to the transition stations at the Carolands Substation, the map states, among other things, "Add two overhead/underground 230 kV transition stations because north of this point the 230 kV line is overhead." This is no longer accurate. Since filing its initial comments on the DEIR, 280 Citizens has further reviewed the Carolands Substation and determined that it is insufficient in size to accommodate the additional 230 kV facilities that would be required under the WRA as originally configured. The physical constraints at Carolands can be overcome, however, through the refinements to the WRA set forth in this response. Under the WRA as clarified, the Carolands Substation would be served by a new 12 kV feeder from the Ralston Substation and would not be served by the new 230 kV line. As a result, the 230 kV line would bypass Carolands entirely and remain on the west side of Interstate 280 in the vicinity of Carolands. And no transition stations would be required at the Carolands Substation. Under the WRA as refined, the 230 kV line would transition from underground to overhead on the west side of I-280 in the vicinity of the southern end of the Crystal Springs Golf Course across I-280 from Carolands. One (1) transition station would be required in this vicinity from underground to overhead. The notation on the draft map regarding the Carolands Substation should accordingly be revised to delete the sentence, "Add two overhead/underground 230 kV transition stations because north of this point the 230 kV line is overhead."

Ninth, with respect to the portion of the WRA north of Carolands, the map states, among other things, "Route of Partial Underground Alternative would be followed north of Carolands Substation, but from Carolands Substation to Millbrae Tap, overhead line would be 230 kV only." This is no longer entirely accurate. Since filing its initial comments on the DEIR, 280 Citizens has further reviewed the WRA and determined that due to physical constraints at the Carolands Substation, the WRA should be clarified to provide for the Carolands Substation to be served by a new 12 kV feeder from the Ralston Substation and not by the new 230 kV line. As a result, the 230 kV line would bypass Carolands entirely and remain on the west side of I-280, avoiding to crossings of I-280. With this refinement, the 230 kV line would transition from

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Comment Set 40, Supplemental Letter #1, cont.

underground to overhead on the west side of Interstate 280 in the vicinity of the southern end of the Crystal Springs Golf Course across I-280 from Carolands and proceed overhead up the west side of I-280 to the Sneath Lane Transition Station. As a result, one (1) transition station would be required in this vicinity. From MP 8.9, the WRA follows the Partial Underground Alternative. The notation on the draft map regarding the portion of the route north of Carolands should accordingly be revised to read, "Route of Partial Underground Alternative would be followed north of MP 8.9, with 230 kV line only overhead from one transitions structure in vicinity of southern end of golf course to Millbrae Tap."

40-18 continued

Thank you again for giving us the opportunity to clarify aspects of the Watershed Restoration Alternative that you raised in your September 15, 2003 data request. If you have additional questions or need clarification of any of these responses, please contact us. We stand ready to assist you and Aspen Environmental in further analyzing the WRA and refining it to address any further issues that arise.

Sincerely,

Edward O'Neill
Christopher A. Hilen
Jeffrey P. Gray

DAVIS WRIGHT TREMAINE LLP

By: _____

Enclosures

cc: Susan Lee, Aspen Environmental

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Comment Set 40, Supplemental Letter #2

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September 26, 2003

Delivered By Hand and By E-Mail

Billie C. Blanchard, AICP
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Project Manager for Jefferson-Martin Project
Energy Division CEQA Unit
California Public Utilities Commission
505 Van Ness Avenue
San Francisco, CA 94102

Re: A. 02-09-043 – Jefferson-Martin Project – Proposed Layout of Ralston Substation Equipment to Implement the Watershed Restoration Alternative

Dear Ms. Blanchard:

In the September 18, 2003 response of the 280 Corridor Concerned Citizens Group ("280 Citizens") to Staff's September 15, 2003 data request on the Watershed Restoration Alternative, we discussed equipment changes that would be required at Ralston Substation to implement the Watershed Restoration Alternative.

40-18

We have created a plan view of the proposed layout of the new equipment at the Ralston Substation, for your use in evaluating the Watershed Restoration Alternative. The proposed view was created in response to the concerns of spacing and land requirements.

EQUIPMENT REQUIRED AT RALSTON SUBSTATION: The 230 kV line would enter the Ralston Substation underground, as described in our response to Staff's data request, to a transition structure and then to a 230 kV ring bus configuration. The 230 kV line would then go through a second transition structure, exit the substation, and return underground to Skyline Boulevard in the same trench as the incoming 230 kV line (with appropriate separation between both 230 kV duct banks). The existing transformers would be replaced with two 33 MVA 230/12 kV transformers which would interconnect with the existing and three new proposed 12 kV feeders. The new 12 kV feeders would be installed in the Ralston Substation to serve the

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Comment Set 40, Supplemental Letter #2, cont.

Watershed, Crystal Springs, and Carolands Substations. Those three 12 kV feeders would exit the substation and travel underground to Skyline Boulevard in the same trench as the incoming and outgoing 230 kV lines (again with appropriate separation between both 230 kV duct banks and the 12 kV feeders).

40-18

We concur with Staff's assessment that a ring bus configuration for 230 kV circuits and transformers is prudent to insure the integrity of the 230 kV transmission line at the Ralston Substation along with the proposed transformers, distribution protection, and the related and proposed 12 kV feeders. Accordingly, we have prepared a preliminary layout of a "Ring Bus" Configuration for the 230 kV line in and out and placed two 230/12.47 kV transformers. There are other configurations possible, but this configuration appears to require the least space.

SPACE REQUIREMENTS AT RALSTON SUBSTATION: The existing Ralston Substation footprint is approximately 0.6 acre (125 feet x 200 feet or 25,000 square feet). We believe that the attached proposed layout will require just over one additional acre of space (225 feet x 200 feet or 45,000 square feet), resulting in total land mass for the Ralston Substation of approximately 1.6 acres (350 feet x 200 feet or 70,000 square feet). DEIR Figure B-14 shows that there is sufficient space contiguous to the Ralston Substation to expand its size sufficiently to accommodate the new equipment we propose.

The new configuration would accommodate the installation of the new equipment and a roll-over to take the existing and new load without sustained or prolonged outages.

Please contact me if we can be of further assistance on this issue or others related to the Watershed Restoration Alternative.

Sincerely,

Edward O'Neill
Christopher A. Hilen
Jeffrey P. Gray

DAVIS WRIGHT TREMAINE LLP

By: _____

Enclosure

cc: Susan Lee, Aspen Environmental

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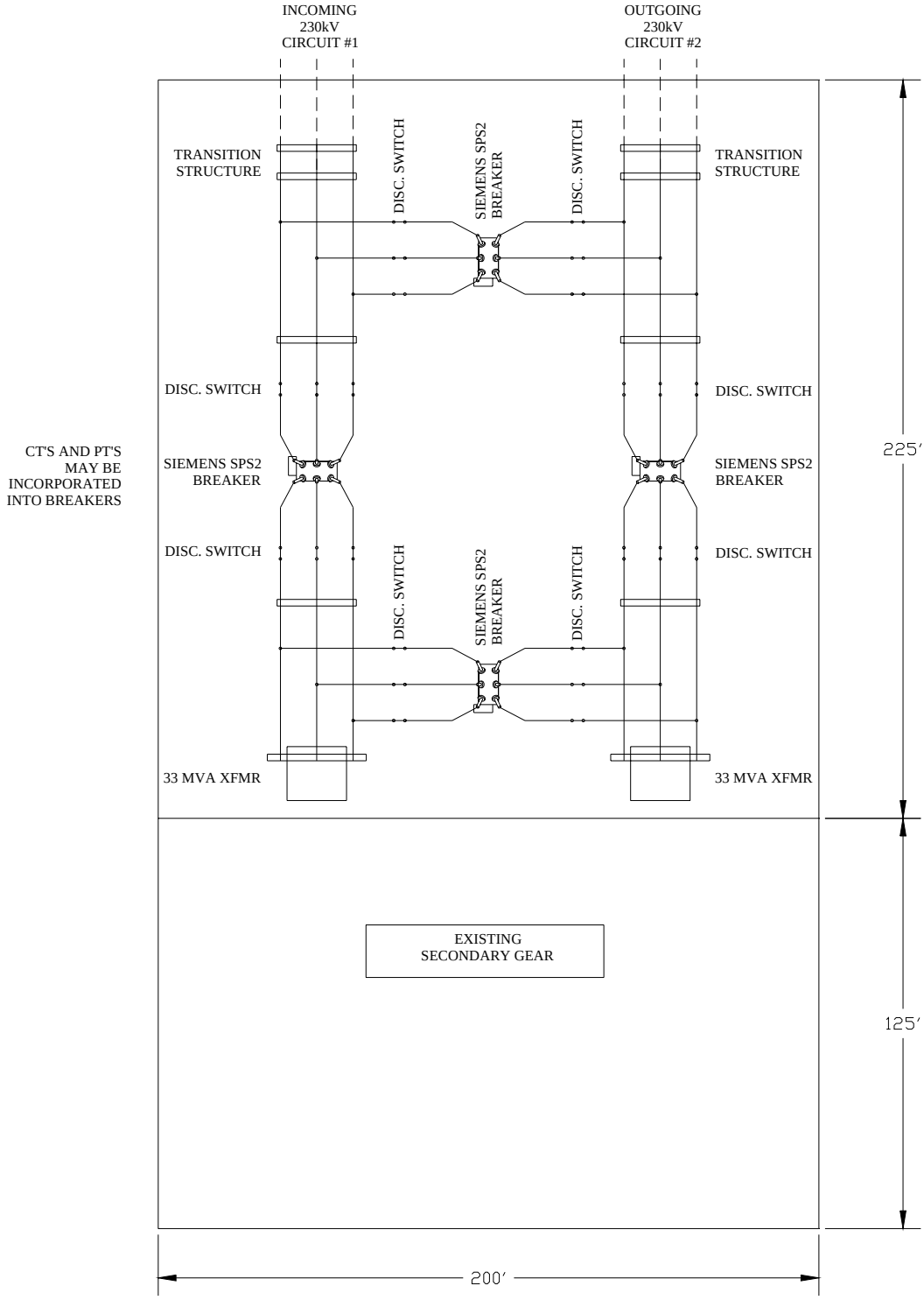
Comment Set 40, Supplemental Letter #2, cont.

40-18

Jefferson-Martin Transmission Project, A.02-09-043
280 Corridor Concerned Citizens Group
Proposed Layout for Ralston Substation
Under the Watershed Restoration Alternative



Responses to Comment Set 40 – Davis Wright Tremaine for the 280 Corridor Concerned Citizens Group

40-1 The commenter states that the Draft EIR "fails to adequately analyze a very important alternative". This alternative is presented for the first time in the comment letter (see Response to Comment 40-18, below), and was not presented during the CEQA scoping process, which would have allowed its consideration in the Draft EIR. As documented in Appendix 1 of the EIR, Alternatives Screening Report, the EIR considers a wide range of alternatives and pursues consideration under CEQA of every alternative that was suggested in the scoping timeframe. The alternatives presented in the Draft EIR are adequate under CEQA's required "reasonable range of alternatives." The commenter's newly suggested "Watershed Restoration Alternative" has now been added to Appendix 1 (Section 4.2.8) of this Final EIR; see full discussion in Response to Comment 40-18.

The comment also states that the Draft EIR fails to adequately analyze the No Project Alternative. This is also inaccurate. The No Project Alternative is defined in EIR Section C.6, and its impacts are considered in each issue area in Section D. Determination of project need is not made under CEQA, but will be addressed in the CPUC's general proceeding. Regarding project "equities", please see General Response GR-3.

The EIR's rejection of certain alternatives "without analysis" is fully compliant with CEQA, which requires consideration of alternatives and their ability to meet specific tests (screening criteria) before proceeding with environmental impact analysis. An EIR is not required under CEQA to undertake full analysis of all alternatives suggested. This EIR completes comprehensive alternatives analysis, as documented in Appendix 1, of all suggested alternatives that meet the CEQA screening criteria (see CEQA Guidelines Section 15126.6(c)). A CEQA document is not required to consider alternatives which are deemed infeasible under these criteria (§15126.6(a)). While the commenter may disagree with the rationale for elimination of certain alternatives, the EIR does consider an adequate range of alternatives as required by CEQA.

Regarding the EIR's analysis of health and safety impacts associated with EMF, please see General Response GR-1.

40-2 The commenter suggests that the EIR is in error for eliminating alternatives on the grounds that they entail mitigations that cannot be lawfully imposed under CEQA. It is the necessary goal of a CEQA lead agency to prepare an environmental document compliant with the body of statutory law governing environmental review. CEQA requires that mitigation measures be enforceable (CEQA Guidelines Section 15126.4).

The commenter argues that the Commission should use its own broad statutory and constitutional power to essentially override CEQA requirements. Traditionally, Commission EIRs include an alternative screening process consistent with CEQA in order to achieve a consistent and meaningful environmental review process. While the Commission general proceeding may consider various issues outside the CEQA process itself in determining ultimate project approval, it has not been the Commission's practice to apply its own statutory authority

to alter the environmental conclusions reached in an EIR if that would be contrary to the existing and specific body of governing law.

40-3 Please see responses to subsequent comments for responses to the specific issues raised in this comment.

40-4 The need for the project will be addressed in the CPUC's general proceeding. The proposed Jefferson-Martin project alone would not allow closure of Hunters Point Power Plant. EIR Appendix 1 Section 2.3.1 describes PG&E's objectives for the Proposed Project, including the reliability benefit of creating a more diverse transmission system. Also, please see Comment Set O, the letter from the California ISO, which defines project need and the benefits that would accrue to San Mateo County residents, and General Response GR-3 regarding project benefits and equity.

40-5 Regarding the specific "fundamental principles" identified in this comment:

(1) The EIR preparers agree that it is more desirable to site high voltage power lines in less populated areas, and Appendix 1 (Alternatives Screening Report) documents the comprehensive effort that went into development of alternatives that would minimize impacts on residential areas and other sensitive land uses. A substantial number of mitigation measures are also presented in the EIR to reduce impacts to residences and other sensitive land uses. However, the San Francisco Peninsula is densely populated and has a growing demand for power. Therefore, it is increasingly difficult to site transmission lines in areas that completely avoid residences.

(2) It is agreed that transmission lines passing through residential neighborhoods should minimize effects on residents. The EIR presents alternatives and mitigation measures that carry out this objective. In addition, the CPUC's no-cost/low-cost EMF mitigation program requires PG&E to implement measures such as phase configurations of conductors and deeper burial of underground lines near sensitive receptors. While the Watershed Restoration Alternative (WRA) would allow removal of the existing 60 kV lines and avoidance of the visual impacts created by the Proposed Project, it is not a legally valid alternative, as explained in Response to Comment 40-18 (below).

(3) Please see Response to Comment 40-2.

(4) Please see General Response GR-3 regarding the benefits and burdens of the project, and Response to Comment 40-2. The CPUC in its general proceeding may consider "community values" and other issues broader than those specifically addressed by the CEQA process.

(5) Please see Response to Comment 40-4 and General Response GR-3. It is not accurate that the residents of San Mateo County would not benefit from the project.

40-6 The comment's five points accurately characterize different aspects of the EIR's No Project Alternative description and analysis. The statement is made that the analysis of the No Project Alternative is deficient because it "looks too narrowly at the Project." The commenter states that the EIR is deficient because it evaluates alternatives without questioning the validity of PG&E's project objectives. Consideration of project objectives was completed in the EIR in strict compliance with CEQA (Guidelines Section 15126.6.a). CEQA requires that alternatives be considered that would "feasibly attain most of the basic objectives of the project." CEQA

does not require the assessment of the validity of a project proponent's stated objectives. However, the Commission may consider this separately in its general proceeding on the Application. The EIR assessed the ability of each alternative to meet the stated project objectives, and did not require that all project objectives be attainable for each alternative.

The No Project Alternative is required to be considered under CEQA for all projects for which an EIR is prepared, and therefore is not evaluated under the CEQA screening criteria used for other alternatives. For that reason, the No Project Alternative is not addressed in the Alternatives Screening Report (Appendix 1), but is defined in EIR Section C and analyzed in each issue area in Section D.

40-7 The EIR presents updated data on load forecasts from that presented in PG&E's Proponent's Environmental Assessment (Section A.2). It must be acknowledged, however, that accurately forecasting demand for electricity is very difficult, especially when economic conditions have changed quickly and dramatically in the Bay Area. However, the EIR makes it clear that no determination of project need is made in the CEQA process. Need will be considered in the CPUC's general proceeding.

40-8 Definition of the No Project Alternative is difficult because it requires forecasting of actions that are considered most likely to occur in the future. In spite of that, the No Project Alternative considers exactly the factors and projects defined in this comment. It includes an assumption that the Williams turbines are more likely be installed, but it does not assume approval and installation of Potrero Unit 7. The CCSF's general opposition to siting of large generators in the City is also acknowledged in the No Project Alternative discussion.

40-9 The commenter states that with the Jefferson-Martin project, the Martin Substation acts as a bottleneck for all power flowing into the City of San Francisco, shifting the current problem from San Mateo to Martin Substations. Without knowledge of the substation bus configurations at these two substations, one could easily assume that the statement is true. However, the bus configurations at these two stations are radically different, and as a result, the "bottleneck" issue is different at the two stations. The San Mateo 230kV bus is configured as a "line bus" with each line connected to the bus via its own circuit breaker. If anything happens to the bus (as was the case in 1989 when the entire Peninsula lost electric service) all lines connected to the bus must be disconnected. At the Martin Substation, the 230kV bus is arranged in a "breaker and a half" configuration. This type of construction results in a number of connected but separately protected bus sections, each with two circuits or transformers connected to it. In this configuration, the loss of one bus section would not result in the need to disconnect all lines into the substation — only those elements that were connected to the section experiencing the problem. Thus, by terminating the different 230kV lines on different bus sections at Martin they remain somewhat isolated from each other and would be more reliable than they are now at San Mateo.

Regarding the comment that the recent northeastern U.S. blackout demonstrates the need for local generation, this comment is partially correct. Generation and transmission must work as an integrated system. Presently, there is insufficient generation in the northern San Francisco peninsula, and efforts are being made to close the existing Hunters Point Power Plant in the near future. At the same time, California ISO studies have determined the need for new resources to supply the City and Peninsula loads. To the extent that new generation in or near the CCSF is not constructed, other means (i.e., transmission), will be required. It should also be noted that in the case of the recent northeast U.S. blackout, the power was being transmitted over significantly

longer distances than in the Bay Area. Much of the power being consumed on the Peninsula comes from generation in and around the Bay Area (Contra Costa and Monterey Counties).

40-10 The CCSF's opposition to the proposed Potrero Power Plant Unit 7 is acknowledged. This project was not included in the No Project Alternative in the EIR because it is considered unlikely that it would be permitted and certainly not within the near future. The options presented in the comment for allowing Potrero Unit 7 to be constructed are beyond the scope of this EIR. The commenter suggests various generation options that could be undertaken by PG&E or CCSF. These options are noted. However, the purpose of the EIR is to provide environmental review of the proposed transmission project, and feasible alternatives that meet stated objectives.

40-11 The existence of line losses is acknowledged. This situation results any time that generation is located at some distance from load, which is the present situation for electricity provided to meet both San Mateo County and CCSF load.

40-12 Please see Response to Comment 40-4. The Jefferson-Martin Project is not proposed solely to allow closure of the Hunters Point Power Plant. The EIR's consideration of the No Project Alternative is appropriate, and as accurate as can be forecasted given current legal and economic conditions.

40-13 No alternatives were rejected based "solely on PG&E's claims" and none were rejected solely based on the timing objective All alternatives considered in the 154-page Alternatives Screening Report were evaluated independently by CPUC staff and consultants for compliance with all CEQA requirements, as defined in Section 2.3 of Appendix 1:

1. Does the alternative allow meeting of most basic project objectives? [Note that no alternative was rejected because it did not meet all project objectives.]
2. Is the alternative feasible (legal, regulatory, technical)?
3. Does the alternative avoid or substantially lessen any significant effects of the Proposed Project (including consideration of whether the alternative itself could create significant effects potentially greater than those of the Proposed Project)?

Based on investigation and review, the EIR presents independent conclusions regarding the ability of any alternative to meet the CEQA requirements. As described in Appendix 1, Section 2.3.1.1 (Meet Electric Demand), PG&E's objective of having the project online in 2005/2006 is one of the objectives against which all alternatives were evaluated. However, all alternatives were evaluated also for their ability to create new environmental impacts and for their feasibility.

The Integrated Resources Alternative is fully described in Appendix 1, Section 4.5.4. It was eliminated based on both feasibility and timing concerns – there is no mechanism under which such an alternative could be implemented in the timeframe suggested by project objectives.

40-14 Please see General Response GR-1 regarding EMFs. The information included in the Draft EIR regarding magnetic field from the project is based upon a worst case scenario. The magnetic field levels are evaluated for the location where the overhead conductors or underground cables are closest to the ground. While the underground cable distance to ground is typically constant, for overhead conductors the wire would be expected to be higher than modeled for over 60% of the line. The current level used in magnetic field analysis is based

upon the peak load which represents times of high power flow that would occur for only a few hours per year.

The EPRI document referenced in this comment has been reviewed, and the comment itself appears to selectively quote the information provided by EPRI. The EPRI document, under an overall heading of "There is no conclusive evidence that exposure to EMF causes health effects" does state that epidemiologic studies indicate that magnetic fields of 3 to 4 mG or above are weakly associated with leukemia in children, a cause-and-effect relationship has not been proven. For such weak epidemiologic associations, supporting data from laboratory studies are usually critical for establishing a causal link. The EPRI document goes on to indicate that in the absence of supporting laboratory and mechanistic evidence, scientists are investigating the possibility that the epidemiologic results have been generated by inadvertent errors in study design or that magnetic fields occur along with another exposure that could plausibly cause leukemia. The article concludes with a statement that EMF research is continuing throughout the world.

40-15 A transmission line is considered to be an industrial facility. One of the major factors used in screening and assessment of alternatives for industrial facilities is avoidance of sensitive resources, including residential areas, schools, and sensitive habitats. This principle was used in the alternatives screening process for the Jefferson-Martin project in order to minimize both construction and operational impacts on sensitive receptors. Complete avoidance of residential areas is not always possible in urban areas, and in those situations, care has been taken to identify areas and alternatives to minimize impacts. For example, installation of an underground transmission line along Trousdale Avenue (as a component of the Route Option 1B Alternative), which is 84 feet wide, would be preferred over a narrower residential street where houses are closer to the street. The Partial Underground Alternative provides rerouting and undergrounding adjacent to residential areas. The Modified 230 kV Collocation Alternative routes the transmission line underground through more industrial and commercial areas.

Magnetic fields for the Route Option 1B Alternative have been calculated for the area west of Skyline Drive between Hayne Road and Trousdale Drive. The narrowest distance between the existing overhead double-circuit 60 kV line and the alternative underground single-circuit 230 kV line is about 300 feet at the point just north of where Summit Drive intersects Skyline. The distance between the two lines increases to over 400 feet between Scott Court and Trousdale Avenue. A discussion of the magnetic field levels for each segment of both the Route Option 1B and the Partial Underground Alternatives has been included in Section D.8.7.4 and in new Figures D.8-2a and Tables D.8-16a and D.8-16b of this Final EIR.

Section D.8.7.4 of the Draft EIR, page D.8-44 stated, "The EMF field levels illustrated in Figure D.8-2 would be relevant to all underground alternatives: field levels directly over the buried cables would be as high as 70 mG, dropping to about 8 or 9 mG at sidewalks."

A further review of the magnetic fields in the area between the existing 60 kV lines and the 230 kV underground along Skyline Boulevard has also been performed. A discussion of the magnetic field levels for each segment of Underground Route Option 1B has been included in Section D.8.7.4 and in Figure D.8-2a and Table 8-16a. This analysis indicates that the two lines are so far apart that the increase in magnetic field level is negligible in the vicinity of either the overhead 60 kV lines or the 230 kV underground line. In the area between the two

lines the maximum additional magnetic field contribution of the other facility varies from 0.1 mG to 0.4 mG.

40-16 In this comment, the 280 Corridor Concerned Citizens Group challenges the elimination of PG&E's Route Option 1B With Undergrounding the 60 kV line Alternative (EIR Appendix 1, Section 4.2.2). This Alternative involves both undergrounding the proposed 230 kV line and relocating and undergrounding the existing 60 kV line. For the reasons explained in new Section 2.3.2.1 of Appendix 1 to the Draft EIR, this Alternative is impermissible under CEQA. The Partial Underground Alternative complies with both CEQA standards and constitutional norms as also explained in Appendix 1 Section 2.3.2.1. Regarding the CPUC's "broad authority," please see Response to Comment 40-2.

40-17 Please see Response to Comment 40-2.

40-18 As stated in Response to Comment 40-1, the alternatives analysis presented in the Draft EIR was comprehensive and more than fully compliant with CEQA in presenting a reasonable range of alternatives. Despite this, the newly suggested Watershed Restoration Alternative (WRA) as defined in this comment and as supplemented by later submittals to the CPUC by the 280 Citizens group, has been added and considered in this Final EIR. Section 4.2.8 of the Alternatives Screening Report (EIR Appendix 1) presents a description of the alternative (expanded from the comment letter based on commenter response to requests from the CPUC to clarify aspects of the alternative that were not fully defined in the original letter). This analysis considers whether the alternative meets the CEQA requirements regarding project objectives, feasibility, and environmental impacts (as defined in Response to Comment 40-13). In addition, a detailed set of maps of the WRA has been developed and are presented in Appendix 1 as Figure Ap.1-8a and Ap.1-8b.

As explained in Appendix 1 Sections 4.2.8 and 2.3.2.1, the WRA is eliminated from detailed consideration in the EIR primarily because the alternative is not legal for consideration under CEQA, as described in detail in Section 4.2.8. In addition, it would reduce the overall reliability of the 60 kV system on the Peninsula, and would create new significant environmental impacts.

It is noted, however, that one component of the WRA, a transition station at the south end of the golf course, is found to be feasible and is considered in the Final EIR. Section 4.3.1.5 of Appendix 1 describes this transition station site, and each issue area in Section D presents analysis of this site. This transition station site would allow creation of hybrid alternatives between portions of the Partial Underground Alternative, the Route Option 1B Alternative, and the Proposed Project.

40-19 It is acknowledged that aspects of the WRA would have fewer visual impacts than the Proposed Project, because the existing towers would not be replaced with taller and larger towers as would be required with the Proposed Project. It would also result in reduction of magnetic fields along the existing 60 kV corridor. However, when compared with the Route Option 1B all underground alternative or the Partial Underground Alternative, the WRA would require changes to the existing environment and aspects of PG&E's transmission system that would not otherwise require modification in order to complete the new 230 kV line. The legal issues related to this proposal are addressed in Appendix 1, Section 4.2.8 under "Feasibility". It is also noted, as discussed in Appendix 1, Section 4.2.8, that the WRA would require a major

expansion of the Ralston Substation and likely reductions in reliability of the 60 kV system that supports the Peninsula.

Use of the WRA would require the use of the new 230 kV transmission line to serve local loads that are now served by the Ralston Substation. This use is contrary to the stated project description. The rework/rebuild of the 60 kV transmission network and additional 12 kV distribution circuits associated with the use of the WRA would potentially increase power flow (current) in many circuits, which, from an EMF perspective, would increase magnetic fields in the area of these lines. At a minimum, the use of the 230 kV line for this purpose is expected to require increasing the current flow in the 230 kV line in order to transmit the additional power to serve these areas, this increase in current would increase the magnetic field of the 230 kV line.

40-20 It is agreed that the Watershed Restoration Alternative (WRA) could avoid significant visual impacts of the Proposed Project south of Carolands Substation (although it may create additional visual impacts due to substantial expansion of the Ralston Substation). The WRA would also require a new transition station at the south end of the golf course (see Response to Comment 40-18) and undergrounding of the 230 kV and several 12 kV circuits through the serpentine grasslands northwest of Ralston Substation.

40-21 The stated benefit is noted; however, the benefit results from removal of transmission system components that are not directly related to the Proposed Project or to the impacts of the alternative itself. Note that the Partial Underground Alternative analyzed in the EIR would also provide this "net environmental benefit" because it would result in removal of most towers between the Ralston and Carolands Substations, within the same right-of-way where the 230 kV line would be installed.

40-22 It is agreed that the WRA would improve visual character and quality along the scenic I-280 corridor. However, please see Responses to Comments 40-17, 40-18, and 40-21 regarding the feasibility of this suggested alternative.

40-23 Please see General Response GR-2. Section D.13.7 (Property Values) has been added to the Socioeconomics section (D.13) of the EIR, and provides a detailed discussion of issues associated with property values and industrial facilities such as transmission lines. Also, see Response to Comment G-5.

40-24 Community values, per se, are not considered under CEQA, but can be considered in the CPUC's general proceeding on the project.

40-25 With the 230 kV line installed in Cañada Road and Skyline Boulevard, there are essentially no cumulative impacts of the 230 and 60 kV lines. Please see Response to Comment 40-15 regarding potential cumulative EMF impacts along Skyline Boulevard between Hayne Road and Trousdale Avenue.

40-26 Please see Response to Comment GR-3 regarding environmental equity. The concept of environmental equity is not acknowledged in CEQA; alternatives must be evaluated under CEQA law, guidelines, and case law as defined in Section 4.2.8 of Appendix 1.

40-27 The WRA would create other environmental impacts that are not stated in this comment. These impacts are defined in Section 4.2.8 of Appendix 1, and include visual impacts of the expanded

Ralston Substation and the transition station south of the golf course, and biological impacts resulting from the expansion of Ralston Substation and installation of the underground lines from Skyline Boulevard.

40-28 The following respond to the specific issues raised in this comment:

(1) Please see General Response GR-3 regarding potential benefits of the project or the fully analyzed alternatives to Peninsula residents. Note also that the Partial Underground Alternative offers many of the same local benefits (tower removal between Ralston and Carolands Substations) as the WRA.

(2) Please see Response to Comment 40-15 regarding potential cumulative impacts of the 60 and 230 kV lines along Skyline Boulevard.

(3) Please see General Response GR-1 regarding EMF impacts and the CPUC's no-cost/low-cost mitigation. Under Route Option 1B or any other route, if approved, PG&E would prepare a new EMF Field Management Plan that specifies mitigation for the land uses along that route.

(4) It is acknowledged that the Route Option 1B would result in installation of a transmission line (underground) in areas that currently do not have high voltage transmission lines. However, the alternative was developed to underground in existing roads and to use wide streets where impacts to residences would be minimized.

(5) According to CEQA and the *CEQA Guidelines*, the "severe adverse visual impacts of PG&E's existing 60 kV transmission system" are part of the environmental baseline against which impacts of this proposed project must be compared. Therefore, the existing line is not considered as an "impact" but as a part of the existing environment.

(6) Please see General Response GR-2 regarding impacts on property values.

40-29 Please see Section E, Comparison of Alternatives, which is updated to reflect additional information and alternatives incorporated into this Final EIR. This section presents the EIR's conclusion regarding the Environmentally Superior Alternative. As stated in Response to Comment 40-18, the WRA is not found to be legally acceptable, so it cannot be considered environmentally superior. Draft EIR Section E.2.1 and Table E-2 summarize the comparison of the Partial Underground Alternative with the Route Option 1B and the Proposed Project. In the southern segment, the Route Option 1B was found to have fewer impacts overall due to the Partial Underground Alternative's visual impacts (transition stations at the crossing of San Mateo Creek and the crossing of the I-280 south of Carolands Substation) and biological impacts (from undergrounding in/adjacent to serpentine soils).

Section D.8.7.3 of the Draft EIR discusses the scientific background and studies conducted related to health risks from exposure to power line magnetic fields. As summarized by the Electric Power Research Institute (EPRI) "There is no conclusive evidence that exposure to EMF causes health effects." Scientists and regulators have not made any determination identifying an "unsafe or safe" level of magnetic field exposure.

Information regarding State, national and international Regulations is also provided in the Draft EIR. While some guidelines or regulations have been adopted related to EMF exposure, the reasons for these actions have been varied; however, the actions can be attributed to addressing public reaction to and perception of EMF as opposed to responding to the findings of any specific

scientific research or health risk. International guidelines and the regulations adopted in other states are all well above the magnetic field values from this project, with the lowest regulated value being Florida's requirement that magnetic field from 230 kV lines not exceed 150 mG at the edge of the right-of-way.

In the absence of a scientific conclusion regarding the health risks of EMF exposure and lacking a regulatory basis for magnetic field limits, it is not possible to identify any threshold as a criterion for determining a significant impact from power line EMF.

The EIR agrees with the commenter that locating the underground duct bank within the existing access road and disked firebreak along the existing 60 kV right-ofway would not result in an unmitigable impact to serpentine habitat (see analysis of the Partial Underground Alternative on biological resources, Section D.4.4.2). It is also agreed that the disked firebreak and disturbed access road adjacent to the homes in the San Mateo Highlands do not support unique or sensitive flora. However, high-quality, sensitive serpentine grassland habitat exists immediately adjacent to and west of the access road and disked firebreak. This serpentine grassland is comparable to the quality of the serpentine grassland habitat present in Edgewood Park. At least one rare plant species has been found in the vicinity of the proposed underground route (Marin dwarf flax), and it is likely that a comparable number of rare species found in Edgewood Park would also be found in this area (to west of the disturbed 60 kV corridor) if the property were as accessible to study as Edgewood Park. Some impacts to this habitat would likely occur during trenching activities, and these impacts would be considered significant, but they can be mitigated through implementation of mitigation measures presented in the EIR. Therefore, significant but mitigable (Class II) impacts to serpentine grassland habitat are anticipated in both the Partial Underground Alternative and the Proposed Project. However, the majority of the Partial Underground Alternative's underground route would utilize the disturbed area and is expected to result in less overall disturbance to the serpentine grassland habitat than the Proposed Project, due to this alternative's removal of the lines from Edgewood Park.

Regarding the suggested use of the disked firebreak adjacent to the I-280 freeway, this route has been evaluated in response to this and other comments. As described in Appendix 1, Section 4.2.3, the firebreak is not continuous and its width varies greatly, so construction of an underground line there would disturb much greater areas of highly valuable habitat than that considered in the Partial Underground Alternative as originally defined. Therefore, this route is not analyzed fully in the EIR.

40-30 Assuming an alternative is approved by the CPUC over the Proposed Project, PG&E will have to prepare and submit a Final EMF Field Management Plan for the approved route. This plan would implement the no-cost/low-cost EMF mitigation, such as the phase configurations mentioned in this comment.

The proposed duct bank for the 230 kV underground line does place the cables in a triangular configuration with respect to each other. The proposed duct bank arrangement does not result in the cables being equal distance from each other. Additional analysis of an equilateral triangular cable arrangement has been performed and indicates that the magnetic field above the duct bank would be approximately 55 mG and 11 mG at 15 feet, decreases of 15 mG and 4 mG respectively. However, it is standard utility practice to include a spare duct for cable replacement in the event one cable fails, and in this case use of an equilateral triangular arrangement would result in higher magnetic field of 97 mG above the duct bank and 19 mG at 15 feet. The

proposed duct bank configuration results in the same magnetic field in the initial installation and if the spare duct is used.

40-31 The advantages of the Partial Underground Alternative detailed in this comment are acknowledged, and are generally consistent with EIR impact conclusions. However, as described in Appendix 1, Section 4.2.8, and in Response to Comment 40-18 above, the WRA is not found to be a legally valid alternative. Please see General Response GR-2 regarding property values, EIR Section F for consideration of cumulative impacts, and General Response GR-3 regarding economic and environmental equity.

40-32 Please see General Response GR-3, and all previous responses in this comment set.

40-33 Please see Responses to Comments 40-18 and 40-19.

40-34 The commenter's preference for the Partial Underground Alternative over the Proposed Project and the Route Option 1B Alternative is acknowledged. Regarding CPUC authority, please see Response to Comment 40-2.