

PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

COMMISSION ADVISORY
AND COMPLIANCE DIVISION
Energy Branch

RESOLUTION E-3221
February 21, 1991

R E S O L U T I O N

RESOLUTION E-3221. REQUEST BY PACIFIC GAS & ELECTRIC COMPANY TO INSTALL A 60 kV ELECTRIC POWER LINE ACROSS THE SCENIC CORRIDOR OF HIGHWAY 280, DEVIATING FROM STATE POLICY.

REQUEST MADE BY LETTER DATED MARCH 9, 1990.

SUMMARY

1. Pacific Gas & Electric Company (PG&E) requests Commission authorization to deviate from the undergrounding provisions of Section 320 of the Public Utilities Code to build a 60 kV line across Highway 280 near Larkspur Avenue in Millbrae, San Mateo County (Project).
2. This crossing would serve the San Andreas Water Treatment Plant (Treatment Plant) of the City and County of San Francisco (CCSF).
3. PG&E proposes to ameliorate the visual impact of the Project by removing a 12 kV crossing at the same location and using the existing poles, with some modification.
4. This resolution grants PG&E's request.

BACKGROUND

1. State policy is to achieve undergrounding of electric or telecommunication facilities near scenic highways when feasible and consistent with sound environmental planning (Section 320 of the Public Utilities Code). This Commission is designated as the State's agency for implementing the undergrounding policy.
2. The Commission's decision¹ regarding this policy allows for overhead installations as follows:

"In order to facilitate administration, letter requests for deviations will be accepted, reviewed by the Commission Staff and, where appropriate, approved by Commission resolution. Local governments' participation in the review

¹ Decision 80864 in Case 9364, dated December 19, 1972.

process is set forth hereinafter under the heading 'Coordination with Local Government'."

"Clear-cut cases of reasonable deviations are granted by resolution following letter requests or by ex-parte order following formal application. Potentially controversial formal applications for deviations are heard and appropriate decisions rendered in each Case".

NOTICE

1. The applicable governmental authorities in this case are the California Department of Transportation (DOT), The San Mateo County Planning Department, the San Mateo County Board of Supervisors and the City of Millbrae. All of these agencies have been notified of this request in accordance with the provisions of G.O. 96-A and all have had the opportunity to respond.

2. There are additional agencies that will have to be notified in the event that this crossing is placed underground. These additional agencies include, but are not limited to: The Golden Gate National Recreational Agency (GGNRA), The California Department of Fish and Game, the San Francisco Bay Regional Water Quality Control Board (WQCB), State and Federal Recreational and Parks Agencies, The City of San Bruno, and the Governor's Office of Planning and Research.

PROTESTS

1. On April 26, 1990, the DOT protested the Project and recommended denial unless the Commission could find no feasible alternative. DOT's protest was based upon the Project's inconsistency with State Scenic Highway policy. On August 21, 1990, the DOT withdrew its protest on the belief that 60 kV, as transmission, is not covered by Section 320 of the Public Utilities Code.

2. In the opinion of this Commission's Legal Division, this project is subject to review.² Therefore, DOT's protest will be considered in this Resolution.

2 Note that Decision 80864 states:

"...it would be preferable not to prescribe a uniform dividing line between 'transmission' and 'distribution' facilities which would unavoidably conflict with the already established definitions in some utilities' tariffs."

DISCUSSION

1. CCSF is expanding the capacity of its Treatment Plant from 120 million gallons per day (mgd) to 189 mgd. Expansion also requires the construction of a new reservoir, new ozone facilities, new pipeline, various other on and off-site plant improvements, and an expanded maximum electrical load of 7500 KVA. The Treatment Plant is now served with 12 kV service by PG&E. This service is from the Millbrae substation, approximately 1.3 miles to the east, through a residential neighborhood.

The Project

2. PG&E proposes to replace the existing 12 kV system with a 60 kV system. A new line would tap into PG&E's existing 60 kV Transmission Line 156, which runs parallel to and west of Highway 280. The tap would require the installation of an 80 foot take-off pole alongside the transmission line. The line would then be extended over two existing wood poles (one on either side of Highway 280). The line would then continue overhead to the Treatment Plant. (See attached sketch).

3. The 80 ft. take-off pole would be located at a lower elevation (approximately 10 to 15 feet lower) than the existing 55 ft. wood pole located next to the highway. The take-off pole would be shielded from the highway by trees.

4. The existing 12 kV crossing, and the source of the two poles proposed to be used for the Project, serve an emergency chlorination facility. CCSF would install emergency generators to provide electricity, eliminating the need of the 12 kV service. The cross arms of the two existing poles would be reconfigured to accommodate 60 kV. The other poles west of the highway will be removed.

5. The entire length of the overhead line extension from the transmission tower to the proposed substation site is 2300 feet. There will be a 500 foot span across Highway 280.

Environmental Impact

6. A Final negative Declaration for the Treatment Plant was issued by CCSF on July 26, 1990.

7. PG&E claims that the visual impact of the Project on the scenic highway would be negligible. The new take-off pole and existing poles needed to cross the highway would be partially or fully obscured by trees. The new 60 kV wire is not significantly larger than the existing 12 kV wire.

Alternatives

8. Three alternatives to the Project have been considered. One alternative is to build a 60 kV line from the Millbrae Substation to the Treatment Plant (Millbrae Alternative). The other two alternatives involve underground routes beneath Highway 280. One underground alternative is to install the 60 kV lines in conduit passing through an existing tunnel under Highway 280 (Tunnel Alternative). The other underground alternative is to bore a hole under Highway 280 and install conduit and cable in the bore (Boring Alternative).

9. The Millbrae alternative is considered undesirable because of the construction impact on the residential neighborhood and because the length of the circuit would cause a flicker or voltage drop that would affect 4,000 customers each time the 1,000 horsepower motors start up.

10. The Tunnel Alternative would use an existing vehicle tunnel (280 feet in length) that is used by the public and by the San Francisco Water Department beneath Highway 280. It is possible that steel conduit could be attached to the tunnel wall to encase the 60 kV cable. Objections to the Tunnel Alternative are that it would impair the clearance of the tunnel and prevent vehicles from using the tunnel. It would also expose the public to risks from proximity to the 60 kV circuits and expose the circuits to vandalism and terrorist attacks.

11. The Boring Alternative would entail approximately 2570 feet of line of which 2070 feet would be overhead and 500 feet would be underground. For security and maintenance reasons, two conduits would have to be installed inside a casing, one energized and one as a standby in the event of rupture or other line breakage. Installation would require the excavation of two 40 foot deep boring pits for jacking the 30 inch diameter casing under the freeway. The extraordinary depth of the pits is due to the high elevation on both sides of Highway 280. Such pits would require safety fencing, restoration of existing vegetation, pumping groundwater during excavation, and geological studies of the site.

12. CCSF estimates the total cost of the overhead line extension at \$130,000 and the cost of the Boring Alternative at \$903,000. This represents a cost ratio of approximately 7 to 1 for underground vs overhead. Previous Commission Decisions have recognized cost differentials of this magnitude as representing infeasibility of underground projects.

13. Commission Decision 80864 sets a guideline for overhead vs underground if the ratio of costs is at least 6 to 1. Based on these guidelines, this Project may be considered infeasible.

14. At the present time, neither PG&E nor CCSF has made an engineering study of the soil conditions and terrain as to the bearing on an underground line extension. Such a study will have to be made if either of the two underground alternatives are used. In such an event, an environmental study will also be required.

15. The Commission Advisory and Compliance Division (CACD) has reviewed this matter. The proposed site was inspected and data requests were made to PG&E and CCSF to understand the character of the Project. For two reasons, CACD recommends granting PG&E's request for a deviation from the State's undergrounding policy. The first reason is the proposed amelioration of the visual impact of the project that will be accomplished by using an existing overhead crossing. The second reason is the cost relationship between overhead and underground installations, as an indicator of the feasibility of the Project.

FINDINGS

1. The City and County of San Francisco is expanding its San Andreas Water Treatment Plant. This expansion will require more electric power.

2. A Final Negative Declaration on the San Andreas Water Treatment Plant was issued by the City and County of San Francisco on July 26, 1990.

3. Pacific Gas & Electric Company must install new facilities to satisfy the needs of the San Andreas Water treatment Plant.

4. PG&E proposes to build an overhead line that will cross scenic Highway 280. Three alternatives to the proposal that would avoid the overhead crossing were considered. For reasons discussed above, the alternatives are infeasible.

5. PG&E would ameliorate the visual impact of the proposed overhead crossing by dismantling an existing crossing and using two of the existing poles to support the new crossing.

6. A new take-off pole will be visible from Highway 280, but will be partially camouflaged by trees and will be of lower apparent elevation than the existing poles. The existing poles will exhibit a new cross beam configuration and the wires delivering 60 kV power will be larger than the existing wires.

7. The cost ratio between underground and overhead facilities exceeds 7 to 1, a ratio that this Commission has used in the past to determine feasibility of the underground alternatives.

8. Applicable governmental agencies have had the opportunity to comment on this project and did not object. The Department of Transportation protested this proposed overhead extension as incompatible with State policy, as expressed in Section 320 of the Public Utilities Code.

9. The Legal Division of this Commission has determined that this proposed project is subject to this Commission's jurisdiction.

10. The California State Legislature, by enactment of Section 320 of the Public Utilities Code, and this Commission, in Decision 80864, affirm that the policy of this state is to achieve, whenever feasible and not inconsistent with sound environmental planning, the undergrounding of all future electric and communications distribution facilities which are proposed to be erected in the proximity of any highway designated as a state scenic highway and which would be visible from such scenic highway if erected above ground.

11. The Project proposed by Pacific Gas & Electric Company, including the dismantling of an existing overhead crossing, will have negligible visual impact and is not contrary to the intent of Section 320 of the Public Utilities Code. The relative cost of the overhead and underground alternatives provides further support for the overhead alternative.

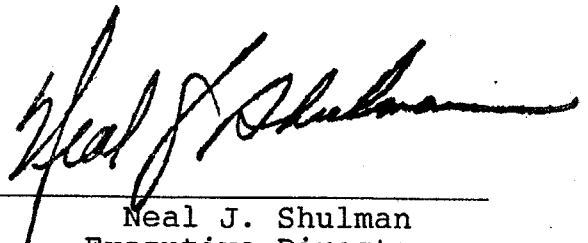
12. The Commission Advisory and Compliance Division recommends approval of PG&E's request for a deviation.

THEREFORE, IT IS ORDERED that:

1. The request by Pacific Gas & Electric Company to deviate from the undergrounding policy expressed in Section 320 of the Public Utilities Code by installing an overhead line to serve the City and County of San Francisco's San Andreas Water Treatment Plant in Millbrae is granted.

2. This Resolution is effective today.

I hereby certify that this Resolution was adopted by the Public Utilities Commission at its regular meeting on February 21, 1991. The following Commissioners approved it:



Neal J. Shulman
Executive Director

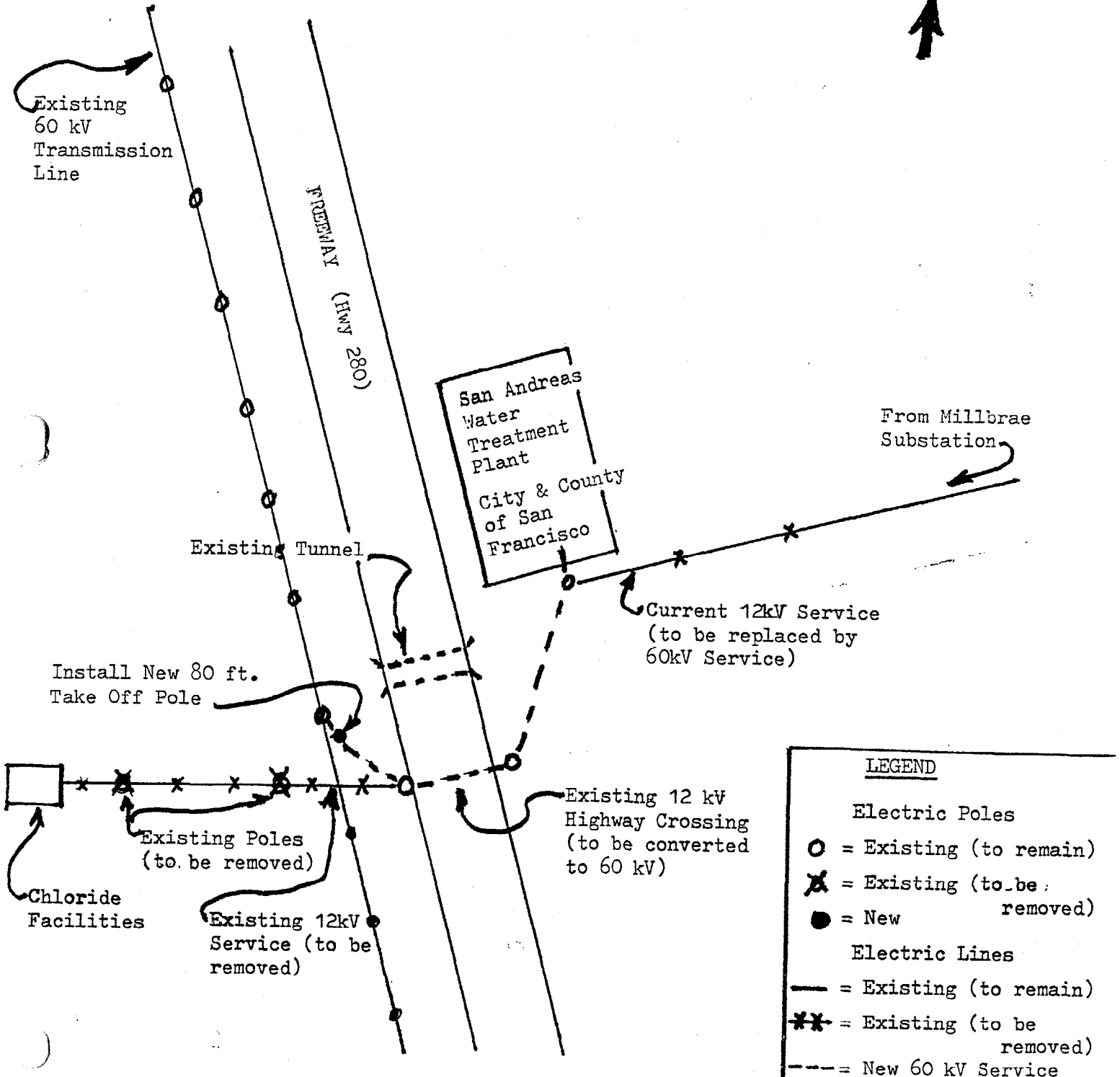
I abstain.
DANIEL WM. FESSLER
Commissioner

I abstain.
NORMAN D. SHUMAY
Commissioner

PATRICIA M. ECKERT
President
G. MITCHELL WILK
JOHN B. OHANIAN
Commissioners

Attachment A

HIGHWAY 280 CROSSING AT MILLBRAE
Proposed Overhead 60 kV Installation



Note: Drawing not to scale.