



**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

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Application of PACIFIC GAS AND
ELECTRIC COMPANY, a California
corporation, for a Permit to Construct the
Atascadero – San Luis Obispo 70 kV
Power Line Reconductoring Project
Pursuant to General Order 131-D

Application No.

A1003006

(U 39 E)

**APPLICATION OF PACIFIC GAS AND ELECTRIC COMPANY
FOR A PERMIT TO CONSTRUCT THE
ATASCADERO – SAN LUIS OBISPO 70 KV POWER LINE
RECONDUCTORING PROJECT**

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March, 10, 2010

TABLE OF CONTENTS

	Page
I. BACKGROUND	1
II. REGIONAL CONTEXT AND PROJECT COMPONENTS.....	2
A. Regional Context	2
1. Existing Regional Electric System.....	2
B. Project Components	3
1. Conductor Replacement.....	3
2. Wood Pole Replacements	4
3. Tower Replacements.....	4
4. Access Roads and/or Spur Roads	5
5. Substations	6
III. THE APPLICANT	6
IV. ADDITIONAL INFORMATION REQUIRED BY SECTION IX(B) OF GO 131-D:	7
V. MEASURES TAKEN TO REDUCE EMF EXPOSURE	11
VI. PUBLIC NOTICE.....	11
VII. REQUEST FOR TIMELY ACTION.....	12
VIII. EXHIBITS	13
IX. CONCLUSION.....	14

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Pursuant to Section IX(B) of General Order (“GO”) 131-D and Rules 2.1 through 2.5 and 3.1 of the California Public Utilities Commission’s (“Commission” or “CPUC”) Rules of Practice and Procedure, PACIFIC GAS AND ELECTRIC COMPANY (“PG&E”) respectfully requests a Permit to Construct (“PTC”) the Atascadero - San Luis Obispo 70 kilovolt (“kV”) Power Line Reconductoring Project to improve transmission reliability and provide sufficient peak period transmission voltage for San Luis Obispo County. By reconductoring this line and replacing aging structures and wires, PG&E will continue to ensure safe and reliable electric service to customers in this area.

I. BACKGROUND

PG&E proposes to replace the existing deteriorating conductor and associated supporting wood poles and steel towers along approximately 15.5 miles of 70 kV power line from Atascadero to San Luis Obispo (including the double-circuit section within the Cayucos-San Luis Obispo 70 kV circuit), in San Luis Obispo County, California. The heavier conductors will be better able to withstand the coastal climate and will provide enhanced voltage support.

The existing wood pole segment of the project begins at PG&E’s Atascadero Substation, located at the intersection of Santa Rosa Road and Highway 41 (Morro Road), in the City of Atascadero. The line runs west of Highway 101, through the City of Atascadero, and crosses Highway 101 just north of Santa Margarita Road. It continues along the east side of Highway 101, and passes through Santa Margarita to the top of Cuesta Grade. From this point, the wood poles transition to lattice steel towers that continue along the east side of Highway 101 down Cuesta Grade, through Reservoir Canyon, and terminate at PG&E’s San Luis Obispo Substation, located at the intersection of Orcutt Road and Johnson Avenue in the City of San Luis Obispo.

Most of the existing wood poles will be replaced with light-duty, direct-buried steel poles. Most of the existing direct-buried lattice steel towers will be replaced with new lattice steel towers with concrete or rock anchor foundations. In five residential locations near or within the City of San Luis Obispo, the existing direct-buried lattice steel towers will be replaced with smaller footprint, single-foundation tubular steel poles (TSPs). All of the new or modified structures will support the new, heavier conductor to meet General Order 95 ground-to-wire safety standards.

The project will be constructed in segments to balance clearances (taking the existing lines out of service) and environmental seasonal constraints. (*See Proponents Environmental Assessment (“PEA”), attached as Exhibit A, Table 2.9-7.*)

II. REGIONAL CONTEXT AND PROJECT COMPONENTS

A. Regional Context

1. Existing Regional Electric System

In the existing transmission system configuration, the Atascadero – San Luis Obispo 70 kV Power Line connects PG&E’s Atascadero Substation to PG&E’s San Luis Obispo Substation and comprises one section of an approximately 50-mile 70 kV transmission loop for the San Luis Obispo greater area. The 50-mile 70 kV transmission loop also includes 40

additional miles of radial 70 kV lines and serves a total of over 31,000 customers in the general area between Cambria, Cayucos, Morro Bay and San Luis Obispo. (See PEA Figure 2.4-1.)

The existing coastal climate produces foggy and windy conditions throughout the year, accelerating the deterioration of electric conductors and associated hardware such as insulators, connectors, and dead-end shoes. The existing Atascadero - San Luis Obispo 70 kV Power Line is primarily comprised of copper and aluminum conductor that was installed as early as the 1930's and 40's. Since this time, PG&E has discovered that this conductor is susceptible to excessive bending. These sharp bends, when exposed to the frequent local winds, create twists in the aging line. Over time, due to coastal fog and high winds, these twists in the conductor cause increased failures. Each failure results in the sustained loss of power to customers. Replacement of the structures and associated hardware will address this problem.

The project will not result in any changes to the current transmission system schematic, as depicted in PEA Figure 2.4-1, other than a new conductor size for the 15.5-mile line section.

B. Project Components

The Project includes the following major components:

1. Conductor Replacement

The proposed project, spanning approximately 15.5 miles of the 70 kV power line, will not change the location or length of the line. The 70 kV power line conductor replacement includes reconductoring the existing 12.8-mile, single-circuit section (supported by both wood poles and lattice steel towers), extending from Atascadero Substation to Tower 73/0, and reconductoring the existing 2.7 mile, double-circuit section (supported by lattice steel towers), extending from Tower 73/0 to the San Luis Obispo Substation. Existing

collocated utilities will be transferred from the existing structures to the new replacement structures.

2. Wood Pole Replacements

The existing wood poles, approximately 50 to 70 feet in height and 16 inches in diameter, will be replaced with new Light-Duty Steel (“LDS”) poles, which will range in height from approximately 50 to 80 feet and will be approximately 15 to 25 inches in diameter. Proposed wood pole replacements will be directly-embedded approximately 7 to 13.5 feet deep. Crews will use a temporary workspace (confined to the previously-disturbed areas around the base of the existing poles to the greatest extent possible) within an approximately 40-foot radius of each pole, depending on site conditions, to provide a safe and adequate workspace. New LDS poles will use an avian-safe design to protect raptors and other birds from being electrocuted. This design is limited to the underbuild 12 kV since the transmission conductors have 4 feet or more separation and, as such, do not produce a safety risk for raptors.

LDS poles will be installed with new, non-ceramic insulators made of polymer composite materials. The insulator is light weight with hydrophobic capability that allows for less overall maintenance.

3. Tower Replacements

The existing direct-buried, lattice steel towers, approximately 20 by 20 feet at the base and approximately 80 to 110 feet tall, will be replaced with new lattice steel towers with concrete foundations, approximately 20 by 20 feet at the base and approximately 10 to 20 feet taller than the existing structures. New towers will typically be constructed within approximately 30 feet north- or south-of, and in line with, the existing towers, dependent upon existing terrain and PG&E engineering design standards. Crews will use temporary workspaces within an approximately 100-foot radius of each tower, depending on site

conditions, to provide a safe and adequate workspace. At locations where vehicle access is not available, an approximately 200-square-foot area, approximately 80 feet uphill from each tower and perpendicular to the alignment, will be leveled and used to mix concrete for the tower foundations. New towers will use an avian-safe design to protect raptors and other birds from being electrocuted.

Lattice steel towers will be installed with new ceramic insulators made of glass or porcelain. The insulators hold a high dielectric strength and have a lifespan of approximately 40 to 80 years, which is ideal for locations prone to high winds and voltage support issues.

Five direct-buried lattice steel towers, four located within the City of San Luis Obispo and one located just north of the City of San Luis Obispo boundary in unincorporated San Luis Obispo County (near PG&E's San Luis Obispo Substation), are planned to be replaced with five new TSPs because they are preferred by property owners at these five locations. The new TSPs will be installed on the same parcels now holding lattice towers, and within the current alignment in a location that will optimize property use by the owners. These new structures will allow for a smaller footprint within the property boundaries.

4. Access Roads and/or Spur Roads

Access roads expected to be used for the Project are existing roads currently used for operations and maintenance. Access roads are either paved, gravel, or dirt. No new roads are anticipated. Portions of some existing access roads will need to be reestablished through tree trimming, vegetation clearing, and some minor grading.

Overland access from existing access roads or along the right-of-way is anticipated in some areas. Overland routes were selected because no grading, vegetation clearing, or trimming is expected to be needed across the grassy areas. These overland routes are

currently used by PG&E for existing access for power line operations and maintenance. Any temporary disturbance to the route area will be minimal and short term.

5. Substations

No substation work will be performed as part of this project, other than the replacement of the existing structures and conductor. The PG&E Atascadero and San Luis Obispo Substation will be used as temporary work areas.

III. THE APPLICANT

Since October 10, 1905, PG&E has been an operating public utility corporation, organized under the laws of the State of California. PG&E is engaged principally in the business of furnishing gas and electric service in California. PG&E's principal place of business is 77 Beale Street, San Francisco, California 94105.

Communications with regard to this Application should be addressed to:

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Incorporated herein by reference is a certified copy of PG&E's Articles of Incorporation, effective April 12, 2004, which was filed with the Commission in connection with PG&E's Application No. A.04-05-005 on May 3, 2004.

A copy of PG&E's most recent proxy statement was filed with the Commission on May 18, 2009 in Application 09-05-016, and is incorporated herein by reference. Copies of PG&E's most recent financial statements (contained in the Form 10-Q Quarterly Report filed on February 19, 2010, by PG&E Corporation and Pacific Gas and Electric Company for the period ending December 31, 2009) were filed with the Commission in connection with

PG&E's Application No. A.10-02-028, filed on February 26, 2010, and are incorporated herein by reference.

IV. ADDITIONAL INFORMATION REQUIRED BY SECTION IX(B) OF GO 131-D:

Pursuant to Rule 2.4 (b) of the Commission's Rules of Practice and Procedure, PG&E has submitted a Proponent's Environmental Assessment, which is attached as Exhibit A to this Application. The following information is required by Section IX.B of GO 131-D:

- a. *A description of the proposed power line and substation facilities, including the proposed power line route; proposed power line equipment, such as tower design and appearance, heights, conductor sizes, voltages, capacities, substations, switchyards, etc., and a proposed schedule for authorization, construction, and commencement of operation of the facilities.*

A detailed description of the proposed Project and equipment is contained in Section II.B above and in Chapter 2.0 of the PEA, Exhibit A. A Preliminary Project Schedule is attached as Exhibit C.

- b. *A map of the proposed power line routing or substation location showing populated areas, parks, recreational areas, scenic areas, and existing electrical transmission or power lines within 300 feet of the proposed route or substation.*

A project map is attached as Exhibit B and a regional area map showing area transmission lines is provided in Figure 2.4-1 of the PEA, Exhibit A. Detailed maps showing the proposed Atascadero-San Luis Obispo 70 kV Power Line are provided in Chapter 2.0 of the PEA, Exhibit A. Populated areas, parks, and recreational areas near the Project site are provided in Figure 3.3-1 of the PEA, Exhibit A. A map showing scenic areas is found in Figure 3.1-1 in the PEA, Exhibit A. There are no designated Scenic Highways within the project viewshed.

- c. *Reasons for adoption of the power line route or substation location selected, including comparison with alternative routes or locations, including the advantages and disadvantages of each.*

As discussed in Chapter 2 of the PEA, Exhibit A, this Project consists of reconductoring an existing power line, so the discussion of routing issues required in GO 131-D, section IX.B.1.c is not applicable to this application.

- d. A listing of the governmental agencies with which proposed power line route or substation location reviews have been undertaken, including a written agency response to applicant's written request for a brief position statement by that agency. (Such listing shall include The Native American Heritage Commission, which shall constitute notice on California Indian Reservation Tribal governments.) In the absence of a written agency position statement, the utility may submit a statement of its understanding of the position of such agencies.*

The Native American Heritage Commission

On October 20, 2008, PG&E consulted with the Native American Heritage Commission (“NAHC”) to determine if any cultural resource sites recorded in the Commission’s Sacred Lands File occur in or near the Project area. The NAHC responded that a records search of the Sacred Lands Inventory showed presence of Native American cultural resources and recommended further contacts. Additional follow-up was completed as suggested. Correspondence and a description of contacts on this issue are included in Appendix E of the PEA, Exhibit A.

California Department of Fish and Game

On May 27, 2009, PG&E provided California Department of Fish and Game, Central Region (“CDFG”), with a brief overview of the project and location. On January 7, 2010, a follow up project overview was provided. CDFG indicated it was pleased the project scope includes replacement of existing wood poles with steel because it would reduce the amount of creosote and other toxins that may result in treated wood-pole structures. Staff also pointed out that federally-listed southern steelhead species were known to exist in proximity to the project area. Listed species are noted in Chapter 3.4 of the PEA, Exhibit A.

United States Army Corps of Engineers

On June 6, 2009, PG&E provided the U.S. Army Corps of Engineers (“ACOE”) San Francisco District and Ventura District offices with brief overviews of the project and location. On October 30, 2009, PG&E provided a follow-up project overview, which included a Wetland Delineation Report, to both the San Francisco and Ventura District Offices. On

November 23, 2009, the San Francisco District Office agreed to take jurisdiction of the project. On January 29, 2010, a San Francisco ACOE staff representative had been assigned to the project and a proposed walk-down of the project is scheduled.

California Regional Water Quality Control Board

On June 9, 2009, PG&E provided California Regional Water Quality Control Board (“RWQCB”) representative with a brief overview of project and location. PG&E plans to submit a Section 401 Water Quality Certification Application to the RWQCB.

United State Fish and Wildlife Service

On August 4, 2009, PG&E provided the U.S. Fish and Wildlife Service (“USFWS”) Ventura District office with a brief overview of the project and location. On August 20, 2009 a follow-up project overview was provided to the assigned USFWS staff representative, which included PG&E’s request for Technical Assistance on the 2008 Proposed Red-legged Frog Critical Habitat designation, encompassing approximately seventy percent of the project area. On August 24, 2009, PG&E met with a USFWS staff representative to discuss the Proposed Critical Habitat designation and project impacts to federally listed species. The Service’s Technical Assistance determined the need for a Biological Opinion from the USFWS under a Section 7 Consultation with the U.S. Army Corps of Engineers. USFWS accepted the PG&E request to append the pre-approved Programmatic Biological Opinion for Red-legged Frog Species. Additional follow up correspondence occurred on August 27, September 9, October 9, December 21, 2009, and January 4, 2010. All recommended protection measures have been incorporated into the project, to the extent applicable.

California Department of Transportation (Caltrans)

On January 16, 2009, PG&E contacted the California Department of Transportation to discuss the project and request confirmation as to which existing poles and towers are

within Caltrans right-of-way. On December 29, 2009, follow-up was made with design specifications for each structure determined to be within the right-of-way. On January 21, 2010, PG&E received approved Caltrans Encroachment Permits for work associated with the Atascadero-San Luis Obispo 70 kV Power Line Project.

County of San Luis Obispo

On November 23, 2009, PG&E provided San Luis Obispo County with a brief overview of the project and location. On December 9, 2009, PG&E met with the County to discuss helicopter usage, tree removal and details of access. On December 9, 2009, PG&E responded to inquiries about project scope. No particular concerns were expressed by the County about the project.

City of San Luis Obispo

On November 23, 2009, PG&E provided the City of San Luis Obispo with a brief overview of the project and location. On December 9, 2009, PG&E met with City representatives to discuss helicopter usage within city limits, affected property owners, tree removal and access, specifically within Open Space property owned by the City. On December 10, 2009, PG&E responded to inquiries about project scope. On January 11, 2010, PG&E and City representative met in the field to discuss the Open Space property. On January 14, 2010, PG&E and a City representative met for a follow-up field visit and confirmed the limited access routes and improvements for known public trails within the Open Space property.

City of Atascadero

On November 23, 2009, PG&E provided the City of Atascadero with a brief overview of the project and location. On December 9, 2009, PG&E met with City representatives to discuss traffic control, tree removal and scheduled capital improvement

projects within the project area. On December 10, 2009, PG&E responded to inquiries about project scope. No particular concerns were expressed about the project.

V. MEASURES TAKEN TO REDUCE EMF EXPOSURE

Section X(A) of GO 131-D requires that applications for a PTC include a description of the measures taken or proposed by the utility to reduce the potential exposure to electric and magnetic fields (“EMF”) generated by the proposed facilities. In accordance with Section X(A) of GO 131-D, CPUC Decision No. D.06-01-042 (“EMF Decision”), and PG&E’s EMF Design Guidelines prepared in accordance with the EMF Decision, PG&E is required to incorporate “no-cost” and “low-cost” magnetic field reduction steps as appropriate in the design of the proposed reconstruction. The lines are optimally phased and will be maintained to reduce magnetic field levels. There are no feasible low cost field reduction measures that can be implemented on this project

The Commission’s EMF Decision and PG&E’s EMF Design Guidelines require PG&E to prepare a Field Management Plan (“FMP”) that indicates the no-cost and low-cost EMF measures that will be installed as part of the final engineering design for the Project. The FMP evaluates the no-cost and low-cost measures considered for the Reconductoring Project, the measures adopted, and reasons that certain measures were not adopted. A copy of the Field Management Plan for this project is attached as Exhibit D.

VI. PUBLIC NOTICE

Pursuant to Section XI(A) of GO 131-D, notice of the Application will be sent to the County of San Luis Obispo Department of Planning and Building, the City of Atascadero Community Development Department, the City of San Luis Obispo Development Review Department, the California Energy Commission, the State Department of Transportation and its Division of Aeronautics, the Secretary of the Resources Agency, the Department of Fish and Game, the Department of Public Health, the California Water Resources Control Board,

the Air Resources Board, the San Luis Obispo Air Pollution Control District, the Central Coast Regional Water Quality Control Board, the Native American Heritage Commission, the State Department of Transportation's District Office, the U.S. Fish and Wildlife Service, all owners of land within 300 feet of the proposed Project (as determined by the most recent local assessor's parcel roll available to PG&E at the time the notice is sent), and any other interested parties that have requested such notification.

In accordance with Section XI(A)(2), within ten days after filing the Application, PG&E will advertise a notice of the Application once a week for two successive weeks in the San Luis Obispo Tribune. In accordance with Section XI(A)(3), PG&E will also post a notice of the Application on-site and off-site where the proposed reconductoring project is located. PG&E will deliver a copy of the notice to the CPUC Public Advisor and the CPUC's Energy Division in accordance with Section XI(A)(3), and will file a declaration of mailing and posting with the Commission within five days after completion.

VII. REQUEST FOR TIMELY ACTION

As described in Exhibit C, PG&E's Preliminary Project Schedule, the Project must be complete and operational by December 2012. To meet these operations requirements, PG&E must begin construction by January 2011, or as soon as possible after attainment of appropriate resource permits.

The existing Atascadero - San Luis Obispo 70 kV Power Line contains approximately 134 splices between Atascadero Substation and San Luis Obispo Substation, resulting mostly from fires occurring in 1993 through 1994. While several fire-damaged transmission poles have been previously replaced along the project alignment, these poles still support the original conductor subjected to the fire. The existing towers that traverse Cuesta Grade are direct buried towers and have been in place more than 70 years. As a

result, they show signs of rusting and are near the end of their normal lifecycle. It is also evident that the project alignment is subjected to high winds, fires and lightening, all factors resulting in the need to replace the existing conductor and upgrade the existing structures.

Given this pressing need and the lack of anticipated environmental issues or public controversy connected with this project, PG&E respectfully requests a streamlined review and approval of this application.

VIII. EXHIBITS

The following exhibits are attached and incorporated by reference to this Application:

Exhibit A: Proponents Environmental Assessment

Exhibit B: Project Map

Exhibit C: Preliminary Project Schedule

Exhibit D: EMF Field Management Plan

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IX. CONCLUSION

WHEREFORE, Applicant Pacific Gas and Electric Company respectfully requests that the Commission issue an order pursuant to GO 131-D, effective immediately, granting PG&E a Permit to Construct the Atascadero – San Luis Obispo 70 kV Power Line Reconductoring Project.

Dated in San Francisco, California, this 10th day of March, 2010.

Respectfully submitted,

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By: /s/ Jo Lynn Lambert
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PACIFIC GAS AND ELECTRIC COMPANY

SCOPING MEMO INFORMATION

Category:

Ratesetting. Pursuant to Rule 2.1(c) of the Commission's Rules of Practice and Procedure, the application must propose a category for the proceeding as defined in Rule 1.3. If none of the enumerated categories are applicable, proceedings will be categorized under the catch-all "ratesetting" category. (CPUC Rule 7.1 (e)(2).) The Commission has consistently found that applications for CPCNs and PTCs under GO 131-D do not fit within any of the enumerated categories and should therefore be considered as "ratesetting proceedings."

Need for hearing:

The CPUC has determined that issues related to project need and cost are not within the scope of PTC applications, leaving only environmental review as a relevant issue. No areas of environmental or other public concern are known. If concerns about the project are raised, PG&E recommends that a public participation hearing be held.

Issues:

None known.

Proposed Schedule:

See Chapter 2.0 of the PEA and Exhibit C, attached.

VERIFICATION

I, the undersigned, declare:

I am an officer of PACIFIC GAS AND ELECTRIC COMPANY, a corporation, and am authorized to make this verification on its behalf. The statements in the foregoing document are true of my own knowledge, except as to matters which are therein stated on information or belief, and as to those matters I believe them to be true.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on March 8, 2010, at San Francisco, California.

/s/ Des Bell

Des Bell

Senior Vice President Shared Service and
Chief Procurement Officer

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EXHIBIT A

PROPONENT'S ENVIRONMENTAL ASSESSMENT

[Proponent's Environmental Assessment (PEA) was filed separately in paper form]

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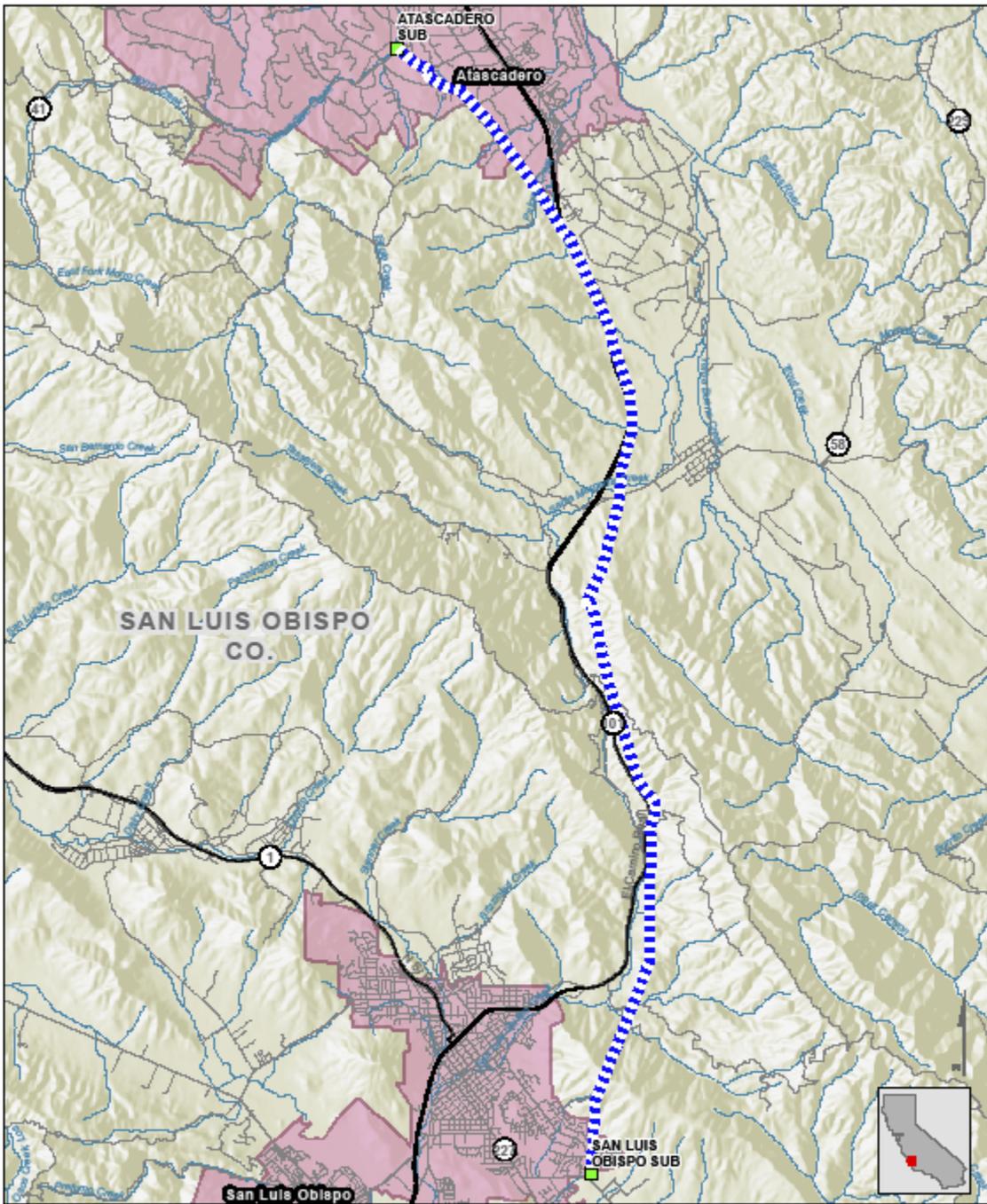
Application No.

(U 39 E)

EXHIBIT B

PROJECT MAP

Atascadero – San Luis Obispo 70 kV Power Line Reconductoring Project
Exhibit B – Project Map



 Rev.: 11/30/09

 Substation

 Power Line

 Creeks

 City Boundary

Overview Map
Atascadero - San Luis Obispo 70 kV
Power Line Reconductoring Project

0 0.5 1 2 Miles Scale: 1:100,000

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EXHIBIT C

PRELIMINARY PROJECT SCHEDULE

EXHIBIT C

ATASCADERO – SAN LUIS OBISPO 70 KV POWER LINE RECONDUCTORING PROJECT

PRELIMINARY PROJECT SCHEDULE

PTC Application submitted	March 10, 2010
Preliminary CPUC review, notice of deficiencies, if any	April 9, 2010
Response to any deficiencies	May 7, 2010 or sooner
Application complete	May 7, 2010 or sooner
Draft Negative Declaration released	July 12, 2010
Public Review Period begins	July 12, 2010
Close of Public Review Period	August 11, 2010
Mitigated Negative Declaration completed and adopted (no later than 105 days (15 weeks) from complete application per CPUC Rule 17.1(f))	August 31, 2010
PTC Decision Adopted and Effective	November/December 2010
Acquisition of Required Permits	October 2010-January 2011
Materials Procurement (long lead)	December 2010-February 2011
Construction Begins	January 1, 2011
Construction Complete	November 1, 2012
Project Operational	December 30, 2012

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EXHIBIT D

EMF FIELD MANAGEMENT PLAN

**TRANSMISSION MAGNETIC BASIC FIELD MANAGEMENT PLAN
ATASCADERO-SAN LUIS OBISPO 70 KV LINE RECONDUCTOR PROJECT**

I. General Description of Project

Project Lead: Project Manager, Electric Transmission Maintenance and Construction

Transmission Lines: Atascadero-San Luis Obispo 70 kV Line
Cayucos-San Luis Obispo 70 kV Line

Distribution line Underbuild: 12 kV.

Scope of Work:

Due to structural deterioration and the need to increase transmission reliability to provide sufficient peak period voltage, Pacific Gas and Electric Company (PG&E) proposes to replace wire with new wires (reconductor) and replace approximately 137 wood poles and 43 towers along approximately 15 miles of the existing Atascadero-San Luis Obispo 70kV power line within San Luis Obispo County. The existing wood poles are proposed to be replaced with new light duty, rustic colored, steel poles approximately 50- to 10- feet taller to maintain sufficient distance between the ground and lower 12kV distribution underbuild as required by the Commission's General Order 95. The existing lattice steel towers are proposed to be replaced with new lattice steel towers, with exception to approximately 5 existing lattice steel towers within the City of San Luis Obispo , which are proposed to be replaced with approximately 5 new galvanized, Tubular Steel Poles (TSPs). The wood pole segment of the project begins at PG&E's Atascadero Substation, located at the intersection of Santa Rosa Road and Highway 41 (Morro Road), in the City of Atascadero. The alignment runs west of Highway 101, through the City of Atascadero, and crosses Highway 101 just north of Santa Margarita Road. The segment continues along the eastside of Highway 101, and passes through Santa Margarita to the top of Cuesta Grade. From this point, the wood poles transition to steel towers that continue along the eastside of Highway 101 down Cuesta Grade, through Reservoir Canyon, and terminate at PG&E San Luis Obispo Substation, located at the intersection of Orcutt Road and Johnson Avenue, in the City of San Luis Obispo.

II. BACKGROUND: CPUC DECISION 93-11-013 AND EMF POLICY

On January 15, 1991, the CPUC initiated an investigation to consider its role in mitigating the health effects, if any, of electric and magnetic fields from utility facilities and power lines. A working group of interested parties, called the California EMF Consensus Group, was created by the CPUC to advise it on this issue. It consisted of 17 stakeholders representing citizens groups, consumer groups, environmental groups, state agencies, unions, and utilities. The Consensus Group's fact-finding process was open to the public, and its report incorporated concerns expressed by the public. Its recommendations were filed with the Commission in March 1992.

In August 2004 the CPUC began a proceeding known as a “rulemaking” (R.04-08-020) to explore whether changes should be made to existing CPUC policies and rules concerning EMF from electric transmission lines and other utility facilities.

Through a series of hearings and conferences, the Commission evaluated the results of its existing EMF mitigation policies and addressed possible improvements in implementation of these policies. The CPUC also explored whether new policies are warranted in light of recent scientific findings on the possible health effects of EMF exposure.

The CPUC completed the EMF rulemaking in January 2006 and presented these conclusions in Decision D.06-01-042:

- The CPUC affirmed its existing policy of requiring no-cost and low-cost mitigation measures to reduce EMF levels from new utility transmission lines and substation projects.
- The CPUC adopted rules and policies to improve utility design guidelines for reducing EMF, and provides for a utility workshop to implement these policies and standardize design guidelines.
- Despite numerous studies, including one ordered by the Commission and conducted by the California Department of Health Services, the CPUC stated “we are unable to determine whether there is a significant scientifically verifiable relationship between EMF exposure and negative health consequences.”
- The CPUC said it will “remain vigilant” regarding new scientific studies on EMF, and if these studies indicate negative EMF health impacts, the Commission will reconsider its EMF policies and open a new rulemaking if necessary.

In response to a situation of scientific uncertainty and public concern, the decision specifically requires PG&E to consider “no-cost” and “low-cost” measures, where feasible, to reduce exposure from new or upgraded utility facilities. It directs that no-cost mitigation measures be undertaken, and that low-cost options, when they meet certain guidelines for field reduction and cost, be adopted through the project certification process. PG&E was directed to develop, submit and follow EMF guidelines to implement the CPUC decision. Four percent of total project

budgeted cost is the benchmark in implementing EMF mitigation, and mitigation measures should achieve incremental magnetic field reductions of at least 15%.

III. ELECTRIC AND MAGNETIC FIELDS (EMF)

EMF is a term used to describe electric and magnetic fields that are created by electric voltage (electric field) and electric current (magnetic field). Power frequency EMF is a natural consequence of electrical circuits, and can be either directly measured using the appropriate measuring instruments or calculated using appropriate information.

Electric fields are present whenever voltage exists on a wire, and are not dependent on current. The magnitude of the electric field is primarily a function of the configuration and operating voltage of the line and decreases with the distance from the source (line). The electric field can be shielded (i.e., the strength can be reduced) by any conducting surface, such as trees, fences, walls, buildings, and most types of structures. The strength of an electric field is measured in volts per meter (V/m) or kilovolts per meter (kV/m).

Magnetic fields are present whenever current flows in a conductor, and are not dependent on the voltage of the conductor. The strength of these fields also decreases with distance from the source. However, unlike electric fields, most common materials have little shielding effect on magnetic fields.

The magnetic field strength is a function of both the current on the conductor and the design of the system. Magnetic fields are measured in units called Gauss. However, for the low levels normally encountered near electric utility facilities, the field strength is expressed in a much smaller unit, the milliGauss (mG), which is one thousandth of a Gauss.

Power frequency EMF are present wherever electricity is used. This includes not only utility transmission lines, distribution lines, and substations, but also the building wiring in homes, offices, and schools, and in the appliances and machinery used in these locations. Magnetic field intensities from these sources can range from below 1 mG to above 1,000 mG (1 Gauss).

Magnetic field strengths diminish with distance. Fields from compact sources (i.e., those containing coils such as small appliances and transformers) drop off with distance “r” from the source by a factor of $1/r^3$. For three-phase power lines with balanced currents, the magnetic field strength drops off at a rate of $1/r^2$. Fields from unbalanced currents, which flow in paths such as neutral or ground conductors, fall off inversely proportional to the distance from the source, $1/r$. Conductor spacing and configuration also affect the rate at which the magnetic field strength decreases, as well as the presence of other sources of electricity. The magnetic field levels of PG&E’s power lines will vary with customer demand.

Magnetic field strengths for typical transmission power line loads at the edge of rights-of-way are approximately 10 to 90 mG.

IV. No Cost and Low Cost Magnetic Field Mitigation

Base Case Phasing:

Atascadero-San Luis Obispo 70 kV Phasing is B- C-A (top to bottom)

Cayucos-San Luis Obispo 70 kV Phase is A-C-B (top to bottom)

The lines are optimally phased. The existing phasing will be maintained to reduce magnetic field levels.

V. General Description of Surrounding Land Uses

Schools or Daycare: None

Residential: Fifty-two poles/towers.

Commercial/Industrial: None.

Recreational: None.

Agricultural, Rural, and Undeveloped Land: One hundred thirty-one poles/towers.

Priority Areas where Low Cost Measures are to be Applied

The fifty-two poles/towers in the residential land use area are considered for magnetic field reduction.

VI. Conclusion - Field Reduction Options Selected

There are no feasible low cost field reduction measures that can be implemented on this project.

CERTIFICATE OF SERVICE BY HAND DELIVERY

I, the undersigned, state that I am a citizen of the United States and am employed in the City and County of San Francisco; that I am over the age of eighteen (18) years and not a party to the within cause; and that my business address is 77 Beale Street, B30A, San Francisco, California 94105

On March 10, 2010, I served a true copy of:

**APPLICATION OF PACIFIC GAS AND ELECTRIC COMPANY
FOR A PERMIT TO CONSTRUCT THE
ATASCADERO – SAN LUIS OBISPO 70 kV POWER LINE
RECONDUCTORING PROJECT**

by hand delivery, addressed to:

Jenny Au
Division of Ratepayer Advocates
California Public Utilities Commission
505 Van Ness Avenue
San Francisco, CA 94102

Billie Blanchard
Energy Division
California Public Utilities Commission
505 Van Ness Avenue
San Francisco, CA 94102

I certify and declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Executed on this 10th day of March, 2010 at San Francisco, California.

/s/ Amy S. Yu

AMY S. YU