

A. INTRODUCTION/OVERVIEW

This Draft Environmental Impact Report (EIR) has been prepared by the California Public Utilities Commission (CPUC) in accordance with the California Environmental Quality Act (CEQA) to inform the public and to meet the needs of local, state, and federal permitting agencies to consider the Northeast San Jose Transmission Reinforcement Project proposed by Pacific Gas and Electric Company (referred to in this document as PG&E Co. or “the Applicant”). The proposed project is described briefly below, and in detail in Section B of this EIR. This EIR does not make a recommendation regarding the approval or denial of the project; it is purely informational in content.

This EIR evaluates and presents the environmental impacts that are expected to result from construction and operation of PG&E Co.’s proposed project, and provides mitigation measures which, if adopted by the CPUC or other responsible agencies, could avoid or minimize the environmental impacts identified. This EIR also identifies alternatives to the proposed project and evaluates the environmental impacts associated with those alternatives, in accordance with CEQA requirements.

This CEQA document reflects comments made by agencies and the public during the scoping and Notice of Preparation (NOP) comment period (December 20, 1999 to January 22, 2000, with a subsequent comment period from April 20 to May 20, 2000). During this comment period, several public involvement activities were completed: distribution of the NOP and a scoping meeting notice, establishment of an Internet web page and a telephone hotline, two public scoping meetings, and several meetings with interested local agencies (see additional details in Section G).

A.1 HISTORY AND OVERVIEW OF PROPOSED PROJECT

On July 9, 1998, PG&E Co. filed Application A-98-07-007 (Original Application) with the CPUC to construct the original Northeast San Jose Transmission Reinforcement Project (Original Project). During CPUC review of that application, meetings were held with the Don Edwards San Francisco Bay National Wildlife Refuge (Refuge) to discuss the routing of a portion of the project through the Refuge. At that meeting, the CPUC (and subsequently, PG&E Co.) became aware that newly drafted but not yet promulgated U.S. Fish and Wildlife Service (USFWS) regulations (the Refuge Improvement Act), which are proposed for adoption in mid-2000, could prevent the permitting of the original project because of the difficulty in finding a transmission line to be “compatible” with the purposes for which the Refuge was created. These regulations are discussed in more detail in Section A.3.

Because of the uncertainty involving PG&E Co.’s ability to obtain a permit from the Refuge for the originally proposed Westerly Route, PG&E Co. filed a motion requesting dismissal of the Original Application on April 12, 1999. On May 13, 1999, the CPUC ordered that the original application be dismissed without prejudice. PG&E Co. filed a new Application for a Certificate of Public Convenience and Necessity (CPCN) for the Northeast San Jose Transmission Reinforcement Project (the proposed project) on September 13, 1999 with the “Easterly Route” designated as PG&E Co.’s Preferred Route.

As with the original project, the project includes construction of a 7.3-mile long 230 kV double-circuit transmission line from the Newark Substation to a new, combined transmission and distribution substation (the Los Esteros Substation), which is also to be constructed as part of the project (see regional location map, Figure A.1-1). The proposed project is described in detail in Section B.

A.2 NEED FOR THE PROPOSED PROJECT

A.2.1 Regional Transmission Overview and Planning Criteria

The transmission system serving the San Jose area is part of the electric grid that is owned by PG&E Co. and operated by the California Independent System Operator (CAISO). Pursuant to state legislation (AB 1890), the three investor owned utility systems in the state have turned operational control of their transmission systems to the CAISO. The ownership and planning responsibility for these systems continue to rest with the investor owned utilities. This statewide network of transmission is interconnected with other systems in surrounding states. Together they form part of the Western System Coordinating Council (WSCC) system. Members of the WSCC subscribe to certain minimum operating reliability requirements and planning criteria. In addition to WSCC planning criteria, the CAISO has adopted certain reliability and planning criteria that to a large extent incorporate the WSCC criteria and National Electric Reliability Council (NERC) planning standards. The planning criteria set out by WSCC generally pertain to how one interconnected system plans and operates with adjacent systems, while NERC planning standards set down criteria for service to internal loads, such as those in the San Jose area.

The transmission system planning process generally assesses system operations under both “normal” and contingency (or emergency) conditions. Under both of these situations, system conditions (i.e., transmission line loadings and voltages) are studied to determine whether they are within specified limits. System parameters are checked under both “normal” and “emergency” conditions. Under normal conditions, the system is modeled as it would be configured for normal operations, presumably with all facilities in operation. The system is then reconfigured to represent a condition where one or more facilities is out of operation, representing the occurrence of a system emergency. Each system element is rated for both normal and emergency operations, and the electrical loadings on each element are checked relative to the respective normal or emergency rating, as appropriate. In general, planning criteria require that all system elements be operated within applicable ratings (normal or emergency rating as determined by system status). When an overloaded element is identified, options for relief of the overloaded condition are identified. Options can range from relatively simple actions, such as adjusting generation, to highly complex and capital-intensive construction projects.

In the case of the Northeast San Jose area, PG&E Co.’s transmission planning process has identified a number of system elements that will be overloaded under both normal and emergency situations, and has proposed a plan for correcting the overloaded conditions.

A.2.2 Electricity Demand in the Project Area

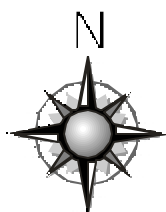
Electric demand in the greater San Jose area has been increasing rapidly in the past 10 years. The high-voltage electric transmission system serving the area is approaching its capacity to reliably serve customers. Based on PG&E Co.'s most recent load forecast, current NERC, WSCC, and CAISO transmission planning criteria, the expected peak load (demand for electricity) will be approximately 2,415 megawatts (MW) by the summer of 2002, exceeding the 2,336 MW load serving capability of the transmission facilities by approximately 79 MW. These figures include the City of Santa Clara, Northeast San Jose, Downtown San Jose, South San Jose, and Morgan Hill/Gilroy planning areas, as well as the area's industrial loads.

The project is needed because of a strong growth in electric demand in the greater San Jose area. The 1997 and 1998 summer peak electric demand for the greater San Jose area, including the City of Santa Clara, was 1,825 MW and 1,990 MW, respectively. In the past four years, the greater San Jose area has experienced a steady economic expansion with a related increase in electric demand of about 100 MW per year. Growth in electric demand typically follows growth in economic activity. This is especially true for the greater San Jose area because of the number of new, high-technology facilities that are characterized by high electric usage.

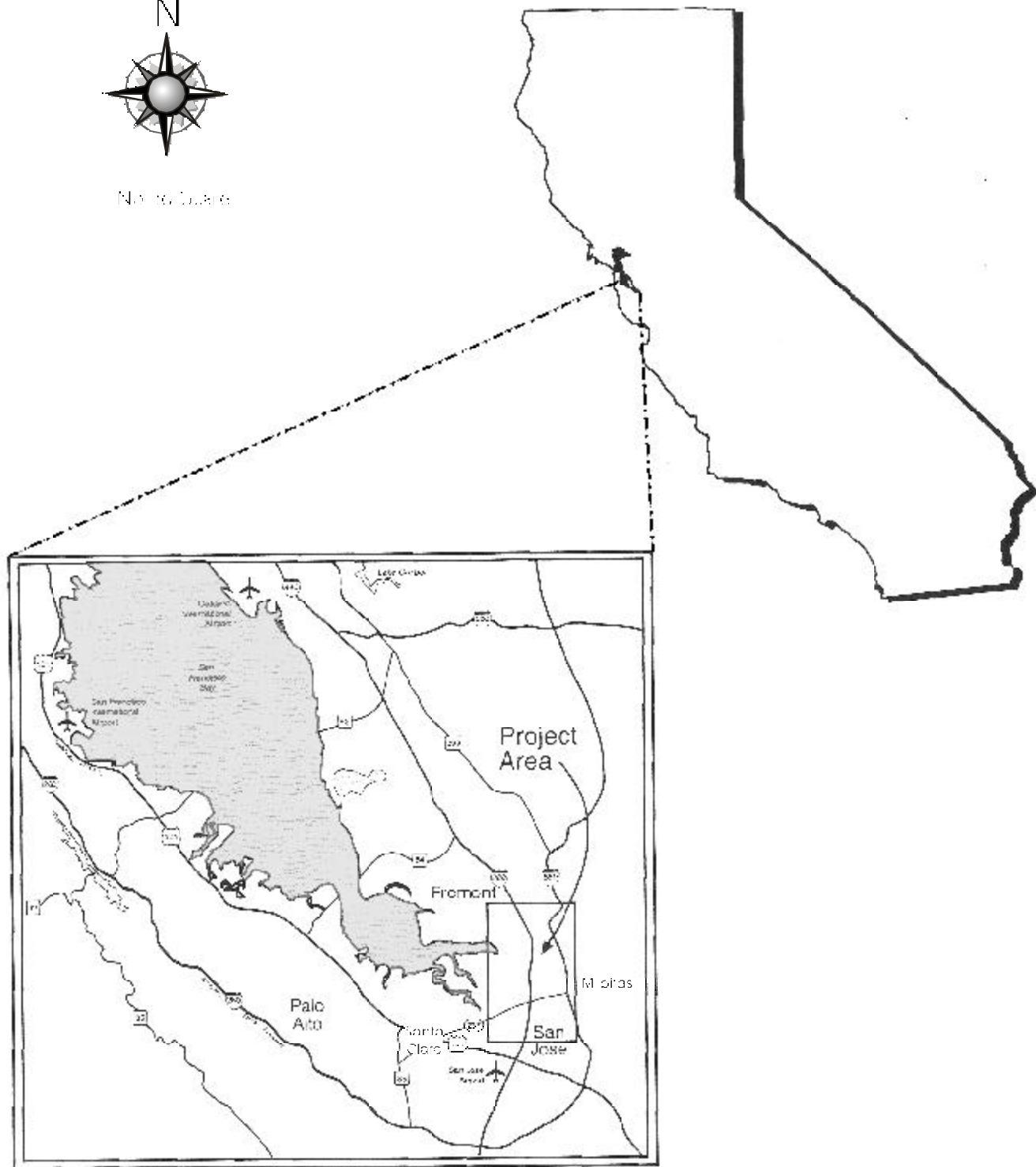
Based on historical data, the projected area economic outlook, and known customer development plans, PG&E Co. and the City of Santa Clara forecast that electrical demand for the greater San Jose area will grow at an average rate of 106 MW per year through 2002, and about 70 MW per year beyond 2002. This rate of load growth, while relatively high, is within that historically recorded in the area and within a range that might be expected based on the level of development within the area. To the extent that area economic activity slows, projection for one year may be moved out in time by one or two years.

As electric demand increases, power line conductors and power transformers will reach and exceed their rated capacities. When the demand on the equipment exceeds its rated capacity, the equipment becomes overheated and can be damaged.¹ The electric system is designed with protective and control equipment to prevent this type of damage; circuit breakers remove equipment from service when equipment failure occurs or when preset design limits are reached. However, removing equipment from service will lead to power outages in the areas served by the affected power lines and transformers.

¹ The electrical and mechanical properties of materials in the equipment will irreversibly degrade when the heat build-up exceeds design thresholds. For example, prolonged overheating of power line conductors will cause the conductors to lose elasticity and eventually fail mechanically. The conductors can then drop to the ground and become a safety hazard. Likewise, when a power transformer becomes overheated, the insulating materials in the transformer are degraded and permanent damage and equipment failure can occur.



North Arrow



**Northeast San Jose Transmission
Reinforcement Project EIR**

Figure A.1-1

Regional Project Location

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Source: PEA, 1998.

The increase in demand in the greater San Jose area will also result in low system voltages. Low voltage can cause service interruptions (sometimes of short duration) for customers with voltage-sensitive equipment. This is a growing concern with the expansion of the high technology industry in the area using such sensitive equipment. Extremely low voltage will also interrupt air conditioning and refrigeration, and stall electric induction motors.²

According to PG&E Co., the project is needed by the year 2001 to meet customer electric demand without overloading the existing electric facilities and to prevent low system voltages. Due to delays resulting from the need to change the preferred route and resubmit the Application (as described in Section A.1), the project will most likely not be completed until 2002. In the interim, PG&E Co. will work with the California Independent System Operator (ISO) to develop appropriate operating procedures (including the possibility of load dropping) to mitigate the initial overloads that are anticipated in 2001.

A.2.3 Existing High-Voltage Electric System in the San Jose Area

An electric power system consists of power plants, transmission substations, distribution substations, and overhead or underground electric lines. In PG&E Co.'s power system, electric power is "stepped down" at the distribution substations from higher transmission voltages of 500 kV, 230 kV, 115 kV, and 60 kV to distribution level voltages of 21 kV or 12 kV. Power is then delivered to customers using overhead or underground distribution lines. Figure A.2-1 illustrates the existing transmission system in the north San Jose area, as well as the proposed project and a 115 kV distribution system enhancement that is currently under construction.

The greater San Jose area receives the bulk of its power from two electric transmission substations, Newark Substation in the north and Metcalf Substation in the south.

- Newark Substation, located west of Interstate 880 and north of the Auto Mall Parkway in Fremont, receives power from fossil fuel power plants located in eastern Contra Costa County and from the high-voltage transmission grid interconnecting the western states.
- Metcalf Substation, located near the southern city limits of the City of San Jose, south of Metcalf Road and west of U.S. Highway 101, receives power from the fossil fuel Moss Landing Power Plant on the coast of Monterey Bay, and from the high-voltage transmission grid interconnecting the western states.

At each of these substations, the PG&E Co. 230 kV system is used to energize the 115 kV network through a number of large 230/115 kV transformers. In addition to the 115 kV network, the area contains approximately 300 MW of generating resources. System studies performed by PG&E Co. indicate that, with all facilities in service, the 230/115 kV transformers load from 96 percent to 100 percent of their respective normal ratings. Transformer loads up to 107 percent of the normal rating are forecasted by 2003. With the loss of one of the local generators, loadings on the transformers can be expected to

² Induction motors are commonly used in alternating-current electric motors such as those in fans and pumps.

increase by up to 6 percent. The loss of one 115 kV line and one of the local generators could result in other 115 kV lines in the area overloading by up to 10 percent of the emergency rating.

Presently, both 230 kV and 115 kV transmission lines connect the Newark and Metcalf Substations. The area distribution substations, located throughout San Jose, are served directly from 115 kV lines. The load center for this electric power system is an area encompassing downtown, northern and northeast San Jose, and the Santa Clara distribution substations operated by the Silicon Valley Power, City of Santa Clara. Power flows from the Newark and Metcalf Substations toward the load center via the 115 kV power lines.

In addition to power transmitted from the Newark and Metcalf Substations, there are also several local power-generating facilities supplying the greater San Jose area. The Agnews cogeneration facility, located near the east campus of the State of California's Agnews Developmental Center in north San Jose, is capable of generating up to 26 MW of power; other smaller cogeneration facilities have a combined output of 38 MW. There are about 100 MW of emergency generation in the area that can be used during peak hours and emergency conditions. In addition, a number of large privately owned facilities have small emergency electric generators.

PG&E Co. is currently building additional electric transmission facilities that are not part of this application. This includes the construction of a 115 kV substation (Nortech Substation) and 115 kV power lines between Trimble Substation and the City of Santa Clara's Kifer Substation. This project, the North San Jose Area Capacity Increase Project (shown on Figure A.2-1 in blue and purple), was approved by the CPUC on August 5, 1999. The City of Santa Clara also plans to construct the Northern Receiving Station (NRS) 115 kV substation on its property in 2001, and PG&E Co. will provide the 115 kV interconnection.

A.2.4 Electric Power System Requirements

Transmission System Requirements. PG&E Co.'s analysis shows that high load growth in the greater San Jose area results in increased loading on the electric transmission system. As this growth continues, the transmission system will not be able to provide reliable electric service without additional facilities. Even with all power system facilities in service, by 2001 the system will not be able to serve any new electric customers or the additional electric demand of existing customers in the area. Some of the critical facility overloads are discussed below.

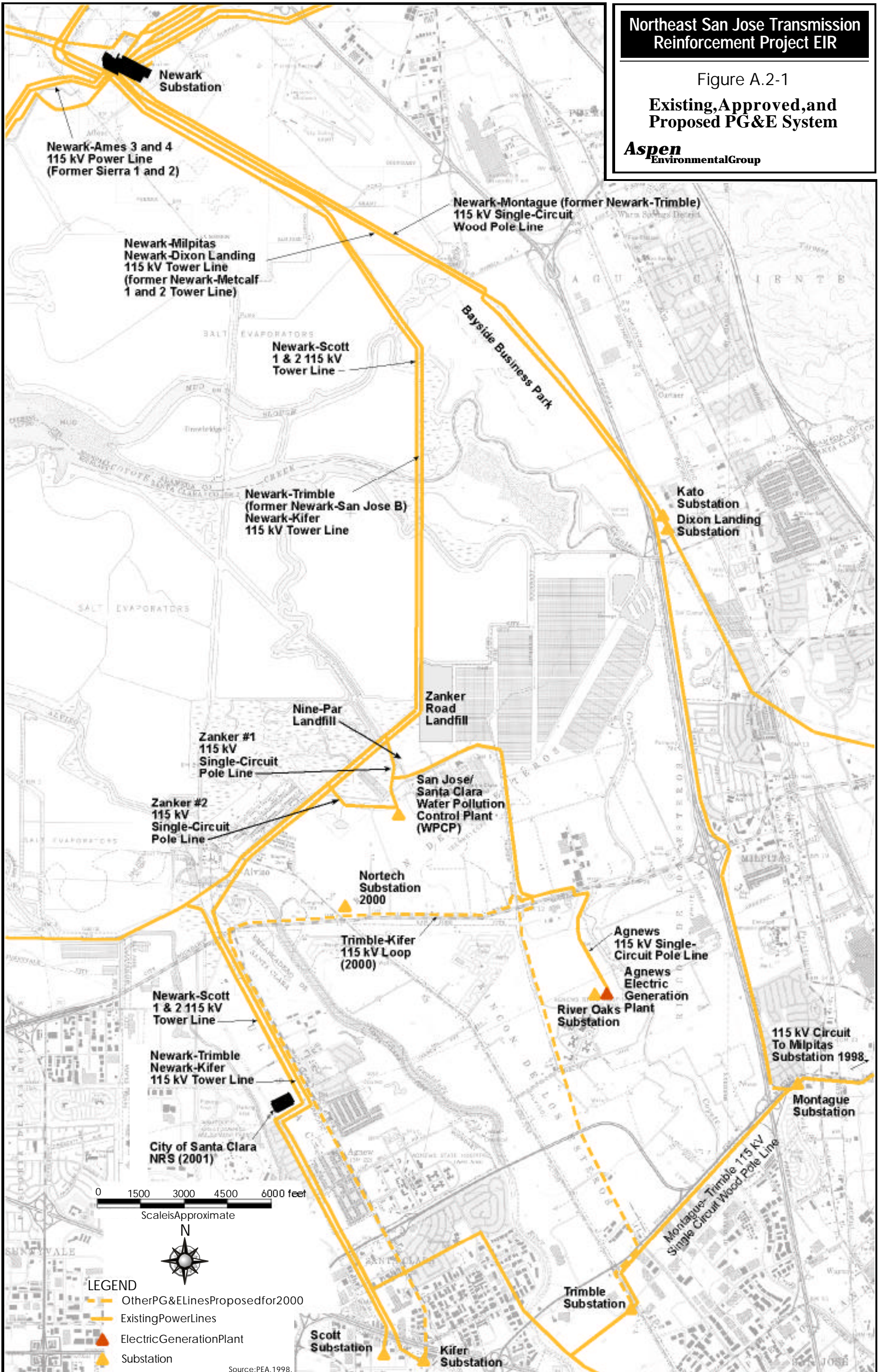
Planning studies based on PG&E Co. and City of Santa Clara electric demand forecasts show that the 230/115 kV transformers at Newark and Metcalf Substations are expected to be loaded up to their normal capability by 2001. If the system load is higher than expected, these transformers will become overloaded earlier than expected. Also, should the Agnews generator experience an unplanned outage in peak demand

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Figure A.2-1

Existing, Approved, and Proposed PG&E System

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periods, the Newark to Trimble 115 kV power line is also expected to be loaded above its capacity beginning in the year 2001.

By 2001, the 230/115 kV transformers at both Newark and Metcalf Substations, and the 115 kV power lines between Metcalf and El Patio Substations and between Metcalf and Swift Substations are expected to be close to or exceed their emergency ratings in the event of certain single transmission circuit outages.³

The transmission system is expected to exceed its capacity in the summer of 2001. Due to delays resulting from PG&E's change to its proposed transmission line route and re-submit the Application, the project is now expected to be completed by 2002. PG&E Co. states that it will work with the California Independent System Operator (ISO) to develop operating procedures (including the possibility of load dropping) to mitigate the initial overloads that are anticipated in 2001.

Distribution System Requirements. To meet the local load growth and demand for electricity, the development of various distribution projects, including new distribution feeders, expansion of existing substations, and construction of new substations, is being planned throughout the greater San Jose area. New distribution substations are also needed as capacity and physical space in existing distribution substations becomes fully utilized.

A new distribution substation, River Oaks, was placed in operation in April 1998 at the Agnews cogeneration facility near Agnews Development Center. Another substation, Nortech, is being built near State Route 237 and North First Street, and is scheduled for operation later this year.

In addition to these new distribution substations, a new 21 kV distribution substation will be needed at the Los Esteros site in the future⁴. The 21 kV system in the vicinity of Zanker Road and State Route 237 is currently served from the Dixon Landing Substation, located near Dixon Landing Road and Interstate 880. A distribution substation that would eventually be located within the Los Esteros property will be interconnected into the local 21 kV system, and will relieve loading at the Dixon Landing Substation, Trimble Substation, and the River Oaks and Nortech Substations (once the Nortech Substation is brought into service).

A.3 AGENCY USE OF THIS DOCUMENT

Pursuant to Article XII of the Constitution of the State of California, the California Public Utilities Commission (CPUC) is charged with the regulation of investor-owned public utilities. The CPUC is the lead State agency for CEQA compliance in evaluation of the PG&E Co. Northeast San Jose Transmission

³ The study assumed that all peaking generating units are in service.

⁴ This distribution system is not evaluated as part of this EIR, but is mentioned here because the future need for the 21 kV system is anticipated in the size of the substation property that PG&E Co. is proposing to acquire.

Reinforcement Project. The document will be used by the Commission to evaluate of PG&E Co.'s application for a Certificate of Public Convenience and Necessity (CPCN) for construction and operation of the proposed project. Under CEQA requirements, the CPUC will determine the adequacy of the Final EIR and, if adequate, will certify the document as complying with CEQA.

Several other agencies will rely on information in this EIR to inform them in their decision over issuance of specific permits related to project construction or operation. In addition to the CPUC, state agencies such as the Department of Transportation, Department of Fish and Game, and Office of Historic Preservation would be involved in reviewing and/or approving the project. On the federal level, agencies with potential reviewing and/or permitting authority include the U.S. Army Corps of Engineers, Advisory Council on Historic Preservation, and the Occupational Safety and Health Administration.

Table A.3-1 lists the Federal, State, and local permits and authorization required for the proposed project.

U.S. Fish and Wildlife Service Compatibility Policy

The National Wildlife Refuge System Improvement Act of 1997 requires that National Wildlife Refuges evaluate proposed uses of their lands to ensure that such uses are compatible with refuge missions. Specifically, as defined in "Draft Compatibility Policy Pursuant to the National Wildlife Refuge System Improvement Act of 1997" (Federal Register Vol. 64, No. 174, page 49067),

Compatible use means a proposed or existing wildlife-dependent recreational use or any other use of a national wildlife refuge that, in the sound professional judgment of the Refuge Manager, will not materially interfere with or detract from the fulfillment of the National Wildlife Refuge System Mission or the major purposes of the affected national wildlife refuge.

The Draft Compatibility Policy states also states that the USFWS will not initiate or permit a new use of a national wildlife refuge or expand, renew, or extend an existing use of a national wildlife refuge, unless the Service has determined that the use is a compatible use and that the use is not inconsistent with public safety.

This policy guidance (when finalized) and the Refuge Improvement Act on which the policy is based will govern the decision of the Don Edwards San Francisco Bay National Wildlife Refuge (Refuge) regarding the proposed project. For this project, there are two separate types and locations of land that would be affected by these policies: the Refuge itself and the Pacific Commons Preserve. Each of these situations is described below, along with explanation of its relevance to the proposed or alternative transmission line routes evaluated in this EIR.

National Wildlife Refuge Lands. As discussed in Section A.1, PG&E Co.'s originally proposed transmission line route (evaluated as the Westerly Route Alternative in this EIR) passed through the Refuge. For this reason, because of concern about whether the Refuge could determine a new

transmission line to be a compatible use, PG&E Co. withdrew its original application and submitted a new application proposing the “Easterly Route” for the transmission line. As a result, the proposed project evaluated in this EIR does not cross Refuge lands. However, two alternatives cross Refuge lands: the Westerly Route and the Westerly Route Upgrade (detailed descriptions presented in Section B.6). Permitting of these alternatives would require a determination of compatibility from the Refuge.

Pacific Commons Preserve. This Preserve has been created as mitigation for biological resources impacts associated with development of a business park on a 500-acre parcel south of Auto Mall Parkway. In order to develop the property, the U.S. Fish and Wildlife Service (through its Endangered Species Biological Opinion) required that a substantial portion of the parcel be set aside as a Preserve, which will be restored to accommodate a variety of endangered species affected by the business park. The Preserve land is still owned by the developer (Catellus Corporation), but a conservation easement will soon be granted to the Refuge to control development until ownership is transferred to the Refuge (this transfer will occur after restoration is completed, in five to ten years). As shown on Figure B.6-2, the Preserve would include a portion of PG&E Co.’s transmission corridor south of Auto Mall Parkway, and it would extend eastward to the I-880.

Refuge managers have stated that with the conservation easement, the Refuge would review proposed uses within the Preserve under the same criteria as for actual Refuge land. Therefore, any route within the Preserve would undergo compatibility evaluation similar to route on Refuge lands.

Table A.3-1 Regulatory Agency Permits or Approvals Required

Action Requiring Permit or Approval	Permits/Approvals	Authorizing Agency or Jurisdiction
FEDERAL AGENCIES		
Placement of dredge or fill materials in waters of the U.S.	Clean Water Act, Section 404/10 Permit (Nationwide or Individual)	U.S. Army Corps of Engineers Counties of Alameda; Santa Clara
Construction Activities	Construction of transmission line and substation	U.S. Occupational Safety and Health Administration (OSHA)
Construction and operation in endangered species habitat	Endangered Species Act, Section 7 compliance (through U.S. Army Corps of Engineers process)	U.S. Fish and Wildlife Service
Construction and operation on land under Refuge control	Right-of-way permits compatibility determination	U.S. Fish and Wildlife Service, Don Edwards National Wildlife Refuge
Construction in areas of sensitive cultural resources	Section 106 Review (through U.S. Army Corps of Engineers process)	Advisory Council on Historic Preservation
STATE OF CALIFORNIA		
California Environmental Quality Act compliance	EIR Certification; Certificate of Public Convenience and Necessity	California Public Utilities Commission
Alteration of the natural state of any stream	Streambed Alteration Agreement (1601 and 1603)	California Department of Fish and Game
Protection of plants and animals	California Endangered Species Act Compliance	
Encroachment within, under, or over State highway ROW	Encroachment Permit	California Department of Transportation (Caltrans)
Transmission line across State waters	Amendment of PG&E Co.’s existing lease	California State Lands Commission

Action Requiring Permit or Approval	Permits/Approvals	Authorizing Agency or Jurisdiction
REGIONAL AGENCIES		
Construction	National Pollutant Discharge Elimination System (NPDES) – Stormwater Pollution Prevention Plan	Regional Water Quality Control Board
Construction	Section 401 Water Quality Certification or Waiver of Waste Discharge Requirements	
Construction and operation	Easement	Bay Conservation and Development Commission
Construction and operation causing air emissions	Authority to Construct/Permit to Operate	Bay Area Air Quality Management District
LOCAL AGENCIES		
Construction affecting roadways	Road Encroachment Permit	Santa Clara and Alameda Counties; City of San Jose
Construction of substation	Welding, Grading, and Building Permits	Santa Clara County
Construction across Coyote Creek Flood Control Channel	Grant of Public Use Right-of-Way	Santa Clara Valley Water District

A.4 READER’S GUIDE TO THIS DOCUMENT

A.4.1 Incorporation by Reference

The following documents contain certain information that is incorporated by reference in some of the sections of this document. These documents are available for public review at the CPUC’s Central Files:

1. Proponent’s Environmental Assessment (Application No. 98-07-007), Pacific Gas and Electric Company, Northeast San Jose Transmission Reinforcement Project, June 1998
2. Supplemental Proponent’s Environmental Assessment (Application No. 99-09-029), Pacific Gas and Electric Company, Northeast San Jose Transmission Reinforcement Project, September 1999.

A.4.2 Organization of this EIR

This EIR is organized as follows:

Executive Summary: A summary description of the proposed project, its alternatives, and their environmental impacts.

Impact Summary Tables: A tabulation of the impacts and mitigation measures for the proposed project and alternatives.

Part A (Introduction/Overview): A discussion of the purpose and need for the project, briefly describing the proposed Northeast San Jose Transmission Reinforcement Project, outlining the public agency use of the EIR and identifying the changes incorporated in the document.

Part B (Project and Alternatives Description): Detailed descriptions of the proposed Northeast San Jose Transmission Reinforcement Project, the alternatives evaluation process, description of alternatives considered but eliminated from further analysis, and description of the alternative projects and alignments analyzed in Part C. This section also includes a description of the scenario used for the analysis of cumulative impacts.

Part C (Environmental Analysis): A comprehensive analysis and assessment of impacts (including cumulative impacts) and mitigation measures for the proposed project, the No Project Alternative, and several alternatives (transmission line route alternatives, substation site alternatives, and 115 kV line alternatives). This Part is divided into main sections for each environmental issue area (e.g., Air Quality, Biological Resources, Geology and Soils) that contain the environmental settings, impacts, and cumulative effects of the proposed project and each alternative. At the end of each issue area analysis, a detailed Mitigation Monitoring Plan is provided.

Part D (Comparison of Alternatives): Identification of the CEQA environmentally superior alternative and a discussion of the relative advantages and disadvantages of the proposed project and alternatives.

Part E (Additional Long-Term Implications): A discussion of short-term uses versus long-term productivity of the environment, irreversible environmental changes, and growth-inducing impacts.

Part F (Proposed Mitigation Monitoring, Compliance, and Reporting Plan): A discussion of the CPUC's mitigation monitoring program requirements for the proposed project.

Part G (Public Participation): A brief description of the public participation program for this EIR is presented.

Appendix 1

- Persons and Organizations Consulted
- List of Preparers and Their Qualifications
- Glossary/Abbreviations

Appendix 2

- Scoping Report
- Notice of Preparation and Initial Study

Appendix 3

- Land Use Policy Consistency Analysis

Appendix 4

- Underground Transmission Construction Techniques