

PUBLIC UTILITIES COMMISSION505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3298**FINAL MITIGATED NEGATIVE DECLARATION****PACIFIC GAS AND ELECTRIC COMPANY'S
APPLICATION NO. A.98-06-039
NORTHERN GEYSERS AREA REINFORCEMENT PROJECT****PROJECT DESCRIPTION**

In compliance with the California Public Utilities Commission (CPUC) General Order No. 131-D, Pacific Gas & Electric Company (PG&E) has applied for a Permit to Construct (PTC) the Northern Geysers Area Reinforcement Project, which consists of improvements at two separate sites, the Geysers site and the Fulton site. The proposed project involves improvements to existing facilities at the northern and southern ends of the existing Geysers Unit 11-Fulton transmission line. This 230kV line is approximately twenty-five miles long and currently extends from Geysers Unit 11, located at the Geysers site in the northern portion of the Known Geothermal Resource Area (KGRA), southward to the Fulton Substation. The Geysers site is approximately 11 miles due south of Clear Lake, in a remote portion of Sonoma County dedicated to geothermal power production. The Eagle Rock Substation is also located at the Geysers site, near Geysers Unit 11, but currently has no connection to Unit 11 or the Geysers Unit 11-Fulton line. The Fulton Substation is located at the intersection of U.S. Highway 101 and River Road, in a predominantly agricultural area approximately 2 miles north of the City of Santa Rosa and one-half mile east of the small community of Fulton.

PG&E proposes to reinforce the Northern Geysers Power Line System by (1) taking Geysers Unit 11 out of the 230kV transmission system and connecting it to the Eagle Rock Substation so that it will become a part of the Northern Geysers Power Line System, (2) reducing the voltage of one of the two existing 230kV circuits on the Geysers-Fulton transmission line (the Geysers Unit 11-Fulton Line) to 115kV, and (3) making improvements at the north end (the Geysers site) and south end (the Fulton site) of this 115kV line to connect it to the Northern Geysers Power Line System. By adding generation from Geysers Unit 11 and creating a strong 115kV power tie to the Fulton Substation (which is connected to several additional electrical power generation sources within the KGRA), the project seeks to provide alternative and more reliable sources of power than are currently available to customers in Colusa, Lake, Mendocino, and northern Sonoma Counties.

The reinforcement of the 115kV and 60kV Northern Geysers Power Line System will help prevent voltage problems on the power system as well as help prevent thermal overloads on the

Cortina-Eagle Rock power line during emergency conditions. As soon as it is built, the project will prevent blackouts, during emergency conditions, to electrical customers within the counties served by the Northern Geysers Power Line System.

The proposed project involves two components. At the Geysers site, PG&E plans to install a 3,300-foot long, 115kV loop that will connect Geysers Unit 11 and the existing Geysers Unit 11-Fulton line to the Eagle Rock Substation and to add two 115kV electric bays with two 115kV line positions to the substation. At the Fulton site, the connection point of the Geysers Unit 11-Fulton line at the substation will be moved from its existing 230kV line position to a 115kV line position. Once the improvements are completed, the operating voltage of the Geysers Unit 11-Fulton line will then be reduced from 230kV to 115kV.

This project will result in a new 3,300-foot long, Geysers Unit 11-Eagle Rock 115kV power line and a new 25-mile long Eagle Rock-Fulton 115kV power line. The new Geysers Unit 11-Eagle Rock power line will be comprised of a short segment of the former Geysers Unit 11-Fulton transmission line plus the north portion of the new 3,300-foot loop into the Eagle Rock Substation. The new Eagle Rock-Fulton power line will be comprised of the south portion of new 3,300-foot loop out of the Eagle Rock Substation plus almost all of the former 25-mile Geysers Unit 11-Fulton transmission line.

The Eagle Rock Substation has been in operation since the mid-1970s and consists of approximately 3 acres of graveled and fenced property. The Fulton Substation has been in operation since the mid-1950s and is approximately 19 acres in size. The Fulton Substation features 230kV and 115kV sources and provides 230, 115, 60 and 21kV outlet circuits. Neither substation is located in a 100-year flood hazard zone. Specific proposed project improvements at each project site are discussed below.

Geysers Site

- Adding two 115kV bay structures with two 115kV line positions to the easterly end of the Eagle Rock Substation. Presently, four 115kV and two 60kV line positions exist within the substation. Each of the new 115kV bay structures will be approximately 35 feet high by 36 feet wide by 50 feet long and will be supported on approximately 11 concrete foundation footings that are individually 18 inches 18 inches by 5 feet deep. Two foundations may be up to 15 feet deep and 3 feet in diameter. Each line position will contain a 115kV circuit breaker, approximately 15 feet high by 13 feet wide by 8 feet long, mounted on a six foot by six foot concrete pad and three 115kV air disconnect switches. Control wires in a plastic conduit will run between the existing control building and the new 115kV circuit breakers. Approximately 200 feet of the control wire will be placed in existing conduit and 100 feet of the control wire will be placed in new conduit buried in a trench that is approximately one foot wide and three feet deep.
- Constructing approximately 3,300 feet of 115kV double circuit power line from the first transmission tower south of Geysers Unit 11 to the Eagle Rock Substation. To accomplish this, an existing transmission tower cross arm would be replaced with a butterfly cross arm, allowing the Geysers Unit 11-Fulton line to be extended from one side of the cross arm to Eagle Rock Substation and returned on the new double circuit line to the other side of the

cross arm. The new 115kV power line will consist of five new tubular steel power poles, three of which would be up to 135 feet tall and two that would be up to 85 feet tall. A fiber optic communications cable will be strung between Unit 11 and the Eagle Rock Substation on existing electrical distribution wood poles. The existing road network within the KGRA will be used to bring all project materials on site. Approximately 400 feet of new, all weather, graded road will be created to provide vehicle access to two of the tubular steel pole sites for construction and future maintenance.

Fulton Site

- Adding a new 115kV line position into an existing 115kV bay within the Fulton Substation. This line position will include a 115kV circuit breaker and five 115 Kv air disconnect switches. The 115kV circuit breaker will be mounted on a six foot by six foot concrete pad.
- Constructing approximately 1,200 ft of 115kV power line that would route the Geysers Unit 11-Fulton power line from just outside the Fulton Substation to the new 115kV line position within the substation. The construction of the 115kV line will involve the installation of six new tubular steel poles, all within utility owned property. Three of the poles will be 40 feet tall and placed just outside the substation's security fence adjacent to existing poles that are up to 120 feet tall. Three other poles, 70 feet tall, will be located inside the security fence.

Project Construction

Construction of the Geysers site improvements would occur over a period of 10 weeks. Fulton site improvements would occur over a 13-week period. All construction equipment, vehicles, personnel, and staging areas would be accommodated at the existing substation sites to minimize the impact on neighboring property owners. Although the Geysers Unit 11-Fulton line would be temporarily de-energized to connect the new facilities, no electrical service interruptions to customers are expected during construction. In order to avoid any disruption of service, PG&E will construct the project in stages. First, the new 115kV bays and line positions would be added inside the two substations. Access improvements would then be made to new pole locations. Then foundations for new tubular steel poles at both sides would be excavated and poured and new poles installed.

Conductors would then be strung on the new poles. Once the tubular steel poles and conductors are installed, all equipment would be tested and the line energized. Final tests would then be run with the facilities energized and the sites would be cleared of any remaining debris. The final testing would be completed during nighttime (off-peak) hours to prevent outages.

Construction crews employed for this project will include a substation crew for the installation of 115kV line positions, a tower crew for installation of the tubular steel poles, and a line crew for stringing conductors. Each crew would be comprised of up to ten people, consisting of qualified electrical workers. A two-person road crew would also be used for construction of the access spur roads necessary at two points along the new 115kV power line at the Geysers site.

Major equipment expected to be used for construction of the proposed project at both the Geysers and Fulton sites includes:

Equipment	Use
two pick-up trucks	transport personnel
tilt truck	transport materials, tools, and equipment
2-ton truck	transport material
1-ton crew truck	transport tools and personnel
transit mixer	transport foundation cement
D5 caterpillar	blade access roads
backhoe	excavate trench and foundations
3-axle truck mounted auger	drill foundation holes for the tubular steel poles
10 yard dump truck	haul material
1-ton truck	haul materials
3,000 to 5,000-gallon water truck	haul and deliver water
fork lift	load and unload materials
crane	lift tubular steel poles into place
reel dolly truck	haul conductor and wire
aerial lift truck	string conductor
line pulling rig	pull conductor
line tensioner	pull and tension conductors

Equipment for installing power line conductors would be placed at opposite ends of the new line section. The initial installation will involve the use of a temporary pulling line known as a “sock line” which will be installed by hand. The sock line is then attached to the final aluminum conductor and pulled in place and tensioned to the required design clearances in compliance with CPUC General Order 95.

Project Operation and Maintenance Procedures

Once constructed, the proposed improvements would be operated and maintained as part of the existing power system, in conjunction with existing Eagle Rock and Fulton Substation facilities. Substation functions would be operated and maintained as they are now, with PG&E technicians periodically inspecting equipment and conducting maintenance activities. The regular inspection of power lines, support systems, and instrumentation and control is critical for the safe, efficient, and economical operation of the project. Two patrols per year will check the power line for integrity: one ground patrol and one by air. All structures will be inspected from the ground on an annual basis for corrosion, misalignment, and excavations. Ground inspection will check the condition of hardware, insulator keys, and conductors as well as conductors and fixtures for breaks, broken insulators, bad splices, and sag.

No additional staff would be added as a result of the construction and operation of proposed improvements.

Detailed Project Information

Further details on proposed construction methods and the proposed facilities are included in the Initial Study prepared for the project and in PG&E's application and Proponent's Environmental Assessment.

CPUC's Permit to Construct Process

The CPUC's process for granting a Permit to Construct requires compliance with the requirements of the California Environmental Quality Act (CEQA). An Initial Study was prepared for this project, specifically to examine the construction of the PG&E Northern Geysers Area Reinforcement Project at its proposed location. A CEQA Initial Study does not study project alternatives; however, under the General Order 131-D process, the CPUC considers alternatives to the project in determining whether or not to issue the Permit to Construct.

ENVIRONMENTAL DETERMINATION

An Initial Study was prepared to assess the potential effects on the environment, and the respective significance of those effects, from the proposed PG&E Northern Geysers Area Reinforcement Project. Based on that Initial Study, the proposed PG&E Northern Geysers Area Reinforcement Project would have less than significant environmental effects or no impact in the areas of:

- Land Use and Planning
- Hazards
- Recreation
- Population and Housing
- Cultural Resources
- Cumulative Impacts
- Transportation/Circulation
- Utilities and Service Systems
- Public Services
- Air Quality
- Biological Resources
- Visual Resources
- Energy and Mineral Resources
- Water
- Noise

Based on the Initial Study, the proposed PG&E Northern Geysers Area Reinforcement Project would have potentially significant environmental effects in the area of:

- Geologic Problems

The identified potential impact can be mitigated to avoid the impact or to reduce it to a less than significant level by mitigation measures. Based on the findings of the Initial Study prepared for the project, PG&E has agreed to comply with these measures and incorporate them as part of the project actions. These mitigation measures and monitoring requirements are as follows:

Impact: Because of the steep slope and generally higher erosion rates in the Known Geothermal Resource Area (KGRA), the potential exists for significant erosion in graded areas including the two proposed access roads after the vegetation cover is removed. The impact is potentially significant.

Mitigation Measure: The following mitigation measures would reduce the potential impact of surface erosion rates to a less-than-significant level.

- M.III.f.1. Engineered erosion control measures and drainage features to control runoff shall be employed consistent with Sonoma County grading ordinance requirements. The amount of vegetation cleared shall be kept to a minimum to accommodate the road. All cleared areas shall be immediately seeded.
- M.III.f.2. Consistent with Sonoma County grading requirements, the road shall be sloped as to promote natural sheet flow of water downhill and avoid concentrations in the roadway. Wide water bars shall be installed at appropriate intervals along the road. A culvert with rip-rap material at the outlet to dissipate energy shall be

installed where the road crosses an existing swale. A water bar on the existing fire road immediately above the proposed access road shall be redirected so that runoff from the fire road is distributed along and down the slope away from the swale.

- M.IIIf.3. No excavated soils shall be sidecast unless they are graded to blend into the adjacent slope, resoiled and re-vegetated. Under no circumstances shall spoil be sidecast into or in close proximity to streams, gullies, drainage ditches or wetlands.

In addition, PG&E has already incorporated the following measures into their project to lessen potential environmental effects:

Summary of Mitigation Measures, Proposed by PG&E as a Part of the Project, Northern Geysers Area Reinforcement

Impact	Mitigation
AIR QUALITY	
<i>Fugitive Dust</i>	<p>Implementation of the following “Basic Control Measures,” as provided in the <i>BAAQMD CEQA Guidelines</i> (1996), would reduce short-term construction impacts to a less-than-significant level:</p> <ul style="list-style-type: none"> • Water all active construction areas at least twice daily. • Apply water three times daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas, and staging areas at construction sites. <p>[Note: These measures reflect required “Basic Control Measures” per the <i>BAAQMD CEQA Guidelines</i>. Because the proposed project would not result in the disturbance of four or more acres, implementation of BAAQMD’s “Enhanced Control Measures” is not required.]</p>
BIOLOGICAL RESOURCES	
<i>Raptors/Migratory Birds</i>	<p>A repeat survey for raptor nests will be conducted immediately prior to project construction. If active nests are found at that time, no construction activity shall occur during the raptor nesting season (February to August) within 500 feet of an identified active nest until all young have fledged (as determined by a qualified biologist), or until PG&E is granted permission to proceed via written authorization from the CDFG.</p>
CULTURAL RESOURCES	
<i>Archaeological Resources</i>	<p>In the event that archaeological remains are discovered during subsurface construction of the project, land alteration work in the general vicinity of the find would be halted and a qualified archaeologist would be consulted. Actions consistent with CEQA cultural resources management requirements would be employed. If prehistoric Native American burials are discovered, a qualified archaeologist, the County Coroner, the California Native American Heritage Commission and local Native American organizations would be consulted in accordance with State requirements.</p>

GEOLOGY & SOILS	
<i>Erosion</i>	Erosion control features will be incorporated into the design of the engineered access roads necessary for construction and maintenance of the 115 kV powerline. (See above for additional detailed mitigation measures).
HYDROLOGY AND WATER QUALITY	
<i>Drainage</i>	A culvert will be installed in a swale that will be crossed by one of the proposed access spur roads in order to maintain the natural drainage pattern. Access/maintenance roads will be engineered and constructed with erosion control measures and drainage features.
NOISE	
<i>Construction Noise</i>	<p>The following noise abatement procedures and equipment would be used to reduce construction-generated noise in the vicinity of the proposed project:</p> <ul style="list-style-type: none"> • Construction activities which generate significant amounts of noise would be limited to between the hours of 7:00 a.m. and 7:00 p.m., Monday through Friday, and between the hours of 9:00 a.m. and 5:00 p.m. on Saturdays, Sundays, and state, federal, or local holidays, except as necessary to minimize impacts of electrical outages. • Construction equipment would be properly outfitted and maintained with feasible noise reduction devices, such as mufflers to minimize construction-generated noise.
PUBLIC HEALTH AND SAFETY	
<i>Hazardous Materials and Wastes</i>	The small amounts of hazardous materials used during construction will be handled in accordance with Best Management Practices (BMP) prescribed in the PG&E's <i>Environmental Resource Field Guide</i> (1992). A Hazardous Materials Business Plan or Hazardous Materials/Waste Registration Form will be submitted to Sonoma County. A revised SPCC Plan is not required since there will be no increase in the amount of oil and minimal increases of impervious surfaces at the substations.
<i>Fire</i>	In accordance with the 1994 Uniform Fire Code Section 1109.5, PG&E will inform its construction and maintenance workforce that, "Lighted matches, cigars or other burning objects shall not be discarded in such a manner that could cause ignition of other combustible material." In addition, PG&E will trim and maintain vegetation in accordance with applicable regulations.

AESTHETICS	
<i>Scenic Quality</i>	To help screen new poles installed at the Fulton Substation from Highway 101, additional trees will be planted along the north boundary of the PG&E property. Also, lower-growing species will be planted to fill the openings where existing power lines cross Highway 101 and enter the substation, and part way along the west side of the substation. As the new vegetation matures over a period of years, the net result will be more effective screening of the Fulton Substation from Highway 101 than under present conditions.
SOURCE: PG&E, 1998 PEA	

FINDINGS

Based on the analysis in the Initial Study and the Mitigation Measures identified in the initial study and listed above for inclusion into the project, the CPUC finds that the PG&E Northern Geysers Area Reinforcement Project (A. 98-06-039) will not have a significant effect on the environment.

Natalie Walsh, Program Manager
Analysis Branch
Energy Division
California Public Utilities Commission

Date