Archaeological and Paleontological Assessment of the Proposed Peaker Project Location at Barre Substation

Katherine H. Pollock, MA, RPA

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PROJECT DESCRIPTION AND LOCATION

Southern California Edison (SCE) proposes to build a new small electricity generating unit called a "peaker" that will be capable of producing up to 45 MW of electricity on short notice during periods when the electrical system needs additional usable power and a technical kind of help called local "voltage support." These modern General Electric "peaker" units will operate on clean-burning natural gas. The project will be located within SCE's existing Barre Substation (Figure 1).

The California Public Utilities Commission (CPUC) directed SCE to site the peakers where they would provide not only supply usable power but also the necessary grid support. These units will increase the generation supply for local communities and provide an important service called "voltage support" to the local distribution networks in which they will be located. Unlike large power plants, which can be constructed in remote locations and connected to the statewide grid at very high voltages, these peaker units will be connected to the lower-voltage distribution grid and will be used to supply electricity and to keep local distribution voltages up at normal levels at times of system strain or imbalance, such as during periods of prolonged high demand, or when a high-voltage transmission line goes out of service or a generator unexpectedly goes offline. The unit will typically run only during hot summer weekdays when the local electrical system requires support due to very high load conditions. The peaker will operate at different times and time lengths depending on the local need, and will be remotely operated. SCE staff will regularly monitor the peaker units' operation.

The proposed peaker within the Barre Substation, located within the city of Stanton, CA, Orange County, will be located in a large, undeveloped area at the southwesterly corner of the existing substation, with construction laydown areas along the southern portion of the substation yard (Figure 1).

This report presents the results of archaeological assessments of the proposed peaker location and the associated laydown area within the Barre Substation. Following a brief cultural setting, the research methods and results are described.

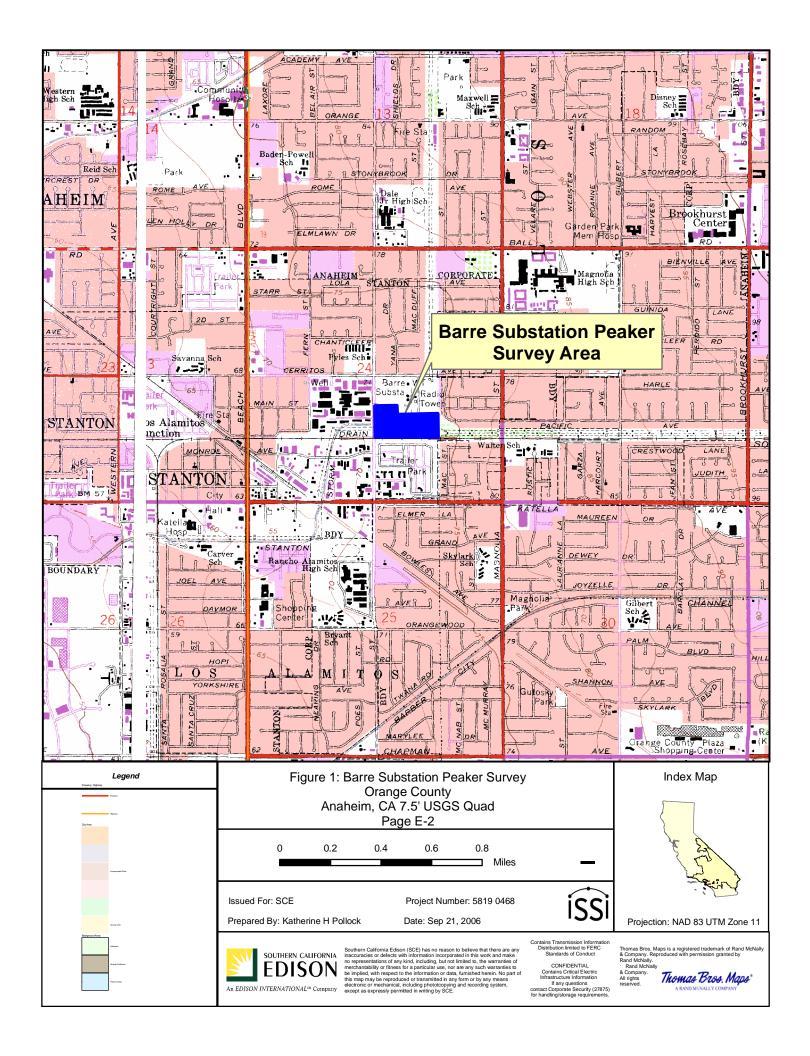
CULTURAL SETTING

PREHISTORY

William Wallace (1955) and Claude Warren (1968) proposed the two most frequently cited prehistoric culture chronologies for southern California. They emphasized past life-ways, protohistoric and historical interpretations to establish a chronology of coastal occupation by Native American groups based on specific tool assemblages catering to different resource bases.

The accepted chronology for Southern California prehistoric times as proposed by William Wallace (1955) and Claude Warren (1968) is as follows:

■ Early Man Horizon: Predating 6000 BC; is characterized by the presence of large projectile points and scrapers, suggesting a reliance on hunting rather than gathering.



- Milling Stone Horizon: 6000 BC to 1000 BC; characterized by the presence of handstones, milling stones, choppers, and scraper planes; tools associated with seed gathering and shell fish processing with limited hunting activities; evidence of a major shift in the exploitation of natural resources.
- Intermediate Horizon: 1000 BC to 750 AD; reflects the transitional period between the Milling Stone and the Late Prehistoric Horizons; little is known of this time period, but evidence suggests interactions with outside groups and a shift in material culture reflecting this contact.
- Late Prehistoric Horizon: 750 AD to European contact; characterized by the presence of small projectile points; use of the bow and arrow; steatite containers and trade items, asphaltum; cremations; gravegoods; mortars and pestles; and bedrock mortars.

ETHNOHISTORY

The project area has been the traditional territory of the Gabrielino Indians from late prehistoric and protohistoric periods, as well as in historical times (Bean and Smith 1978). Gabrielino territory includes the entire Los Angeles Basin and coast, the surrounding foothills, and the islands of San Clemente, San Nicolas, and Santa Catalina. Within this territory there are five macro-environmental zones: Interior Mountains/Adjacent Foothills, Prairie, Exposed Coast, Sheltered Coast, and Islands. Each of these zones creates a slightly different subsistence and settlement pattern, but the Gabrielino primarily subsist on small game, deer, fish, marine animals, acorns, sage, yucca, cacti, and a wide variety of other plants and animals. Other items were traded both inter and intravillage, including the acorns, seeds, and deerskins from the Serrano while the Gabrielino exported steatite to many groups. Houses were domes, circular structures thatched with tule, fern, and carrizo and if the village was located near the ocean the doorway faced the ocean to avoid the northery wind. Villages were politically autonomous with three hierarchical social classes, including the elite with chiefs and the very rich, the middle class with fairly well-to-do and long-established lineages, and the lower class which included everyone else. Within the villages there were nonlocalized lineages, with each lineage having its own leader. Additionally, shamans held an authority position within communities.

The Gabrielino had frequent intervillage feuds due to the failure of a chief to gift during a ceremony, abduction of women, trespassing, or sorcery. If there was a potential conflict all potentially involved villages would gather at a war council to discuss the pros and cons of going to war. If it was decided to go to war, all members of the village were involved, including the old, women and children. The primary instruments of warfare were the bow and arrow and war clubs.

HISTORY

The historical period in can be divided into three distinct periods: the Spanish Mission period, the Mexican Rancho period, and the American period.

Spanish Mission Period

The Spanish Mission period can be defined by the Spanish exploration of the area beginning in 1769 and the establishment of the San Diego Presidio and the Missions San Diego, San Luis Rey, and San Juan Capistrano. However, the inland area remained relatively unexplored as the Spaniards clung to the coast near their missions and presidios. The area was first explored by Juan Bautista de Anza in 1774 when his expedition camped along the San Jacinto Valley.

Mexican Rancho Period

In 1821, Mexico successfully fought for independence from Spain. With Mexico's independence the Mexican Rancho period (1821-1848) started (Gunther 1984). The Mexican Rancho period was a lively and colorful period of California history. The rancheros were known for unrivaled horsemanship and unending hospitality, not to mention a penchant for long celebrations in the form of week-long rodeos and fiestas to celebrate weddings and holy days. The Mexican Rancho period ended in confusion and bloodshed in 1848 as the Mexican War, which had been raging for nearly two years, came to a close. After Mexico was defeated and the Treaty of Guadalupe Hidalgo was signed in 1848, California was ceded to the United States, beginning the American Period (1848–present).

American Period

The effects of California's statehood in 1850 were twofold. For the rancheros, the end of the Rancho period was met with financial ruin. The validity of the land grants issued by Mexican Governors was questioned by the Land Commission. Many of the rancheros never officially gained their land patents. With the flood of new settlers, the American period was marked by unprecedented growth and industry.

METHODS OF DATA COLLECTION

ARCHAEOLOGICAL RECORD SEARCH

A records search was conducted by Audry Williams, an SCE archaeologist, on September 15, 2006, at the California Historical Resources Information System (CHRIS), South Central Coastal Information Center (SCCIC), University of California, Fullerton. The records search was conducted for a radius of one-half mile around the proposed project area. During the records search the SCCIC database of archaeological sites and reports was reviewed, the National Register of Historic Places (NRHP) and the Directory of Determinations of Eligibility for California was reviewed, the California Register of Historic Resources (CRHR) and the California Historical Landmarks and Points of Historical Interest were examined, the California Inventory of Historic Resources was inspected, and the Historic Property Date File for Orange County was reviewed.

FIELD SURVEY

An intensive pedestrian survey of the project areas were conducted by Katherine H. Pollock, MA, RPA, an SCE archaeologist. The survey area included the proposed location for the peaker and all potential laydown areas. Transects were walked at 10 meter intervals. Photographs were taken of the general project area to show the condition and environmental setting. Information recorded for the project location included basic topographic and environmental setting, evidence of natural of human disturbances, and location data.

PALEONTOLOGICAL RECORD SEARCH

The Santa Ana Sheet geological map was reviewed for the area of the proposed peaker location to determine whether sensitive paleontological resources are within or adjacent to the project areas (Rogers 1965).

RESULTS

ARCHAEOLOGICAL RECORD SEARCH

A records search was conducted for the proposed peaker and laydown area within the Barre Substation. The location of the peaker and laydown areas at the Barre Substation have not been previously surveyed, but 3 cultural resource surveys have been conducted within one-half mile of the substation. There are no previously recorded archaeological sites within the project area or within one-half mile of the Barre Substation.

FIELD SURVEY

The proposed location for the peaker at the Barre Substation is a large, undeveloped lot with moderately heavy vegetation, within the southwesterly corner of the existing substation (Figure 2). The open area has been previously disturbed for weed control. A small portion of the lot has also been graveled, including a small access road along the east end of the parcel. Additionally, the ground has been disturbed with the installation of 8 transmission line towers and several utility poles. A spur line from the nearby railroad was installed to help make delivery and installation of heavy electrical equipment in the substation. No cultural resources were observed during the field survey (an intensive pedestrian survey spaced at 10 meter intervals) of the proposed peaker location and the laydown areas.

PALEONTOLOGICAL RECORD SEARCH

The review of the Santa Ana Sheet from the Geologic Map of California showed the proposed peaker location the Barre Substation is located on recent alluvium and alluvium fans (Jennings 1962, Rogers 1965). The geologic deposits include flood plain deposits, marsh deposits, artificial fill, and some natural and artificial beach deposits recently deposited during the Quaternary Period of the Cenozoic Age. The alluvium deposits are not conducive to the formation or preservation of paleontological fossils. No paleontological resources were observed during the field survey.

NATIVE AMERICAN CONSULTATION

A letter to the Native American Heritage Commission (NAHC) was sent on September 26, 2006. The letter described the project and requested a review of the Sacred Lands Inventory for the areas within and adjacent to the project site. The letter also requested a list of potentially interested Native American tribes, groups, and individuals for the project area.

The NAHC responded with a letter dated October 6, 2006. The record search of the sacred land files did not indicate the presence of any Native American cultural resources in the immediate project area.

All correspondence between Southern California Edison and the Native American heritage commission can be found in Appendix A.

CONCLUSION

An archaeological and paleontological assessment of the proposed peaker location and construction laydown areas at the Barre Substation has been completed and presented in this report. A record search was undertaken for the peaker location at the SCCIC, with no previous archaeological surveys or previously recorded cultural resources within the project areas. An archaeological survey was conducted at the project location, with no new cultural or paleontological resources observed. The project will have no significant impact to archaeological resources. No further archaeological or paleontological studies are proposed at this time for the proposed peaker location at the Barre Substation. If project scope and/or project areas change then additional archaeological studies may be needed.

In the event that cultural resources are encountered during any future earth disturbing activities, all work must halt at that location until the resources can be properly evaluated by a qualified archaeologist. If human remains are encountered during the construction or any other phase of development, work in the area of the discovery must be halted in that area and directed away from the discovery. No further disturbance would occur until the county coroner makes the necessary findings as to the origin pursuant to Public Resources Code 5097.98-99, Health and Safety Code 7050.5. If the remains are determined to be Native American, the Native American Heritage Commission (NAHC) would be notified within 24 hours as required by Public Resources Code 5097. The NAHC would notify the designated Most Likely Descendant who would provide recommendations for the treatment of remains within 24 hours. The NAHC mediates any disputes regarding treatment of remains.



Figure 2: Location of the proposed peaker in the existing Barre Substation

REFERENCES CITED

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Rogers, Thomas H.

1965 Explanatory Data Santa Ana Sheet, Geologic Map of California. In *Geologic Atlas of California*. Olaf P. Jenkins, general editor. California Division of Mines and Geology, Sacramento, California.

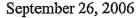
Wallace, William J.

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Warren, Claude

1968 Cultural Traditions and Ecological Adaptation on the Southern California Coast. *Contributions in Anthropology* 1(3):1-14. Eastern New Mexico University.

$\frac{Appendix\ A}{Native\ American\ Consultation\ Correspondence}$





Robert Wood Program Analyst Native American Heritage Commission 915 Capitol Mall, Room 364 Sacramento, CA 95814

Re: Consultation on the Cultural Resources Assessment of the Southern California Edison Peaker Project at the Center Substation and Barre Substation

Dear Mr. Wood,

Southern California Edison (SCE) is conducting a cultural resource assessment for a proposed project known as the Peaker Project at the Center Substation, in the city of Norwalk, CA, Los Angeles County, and Barre Substation, in the city of Stanton, CA, Orange County. SCE proposes to build a new small electricity generating unit called a "peaker" that will be capable of producing up to 48 MW of electricity on short notice during periods when the electrical system needs additional usable power. The project involves cultural resource surveys within the boundaries of the existing substation yards (see attached maps). Within the Center Substation, the proposed location is within an area that has been previously graded and graveled. The proposed location within the Barre Substation is in a large, undeveloped area that has been previously disturbed for weed control.

I request a review of your Sacred Lands Inventory for the areas within and adjacent to the project site, as well as recommendations for Native American tribes, groups, and individuals we should consult. Thank you very much for your assistance. I look forward to hearing from you at your earliest convenience. If you would like additional information, please call me at 626-302-4860 or contact me by e-mail at katherine.pollock@sce.com.

Sincerely,

Katherine Pollock

Archaeologist

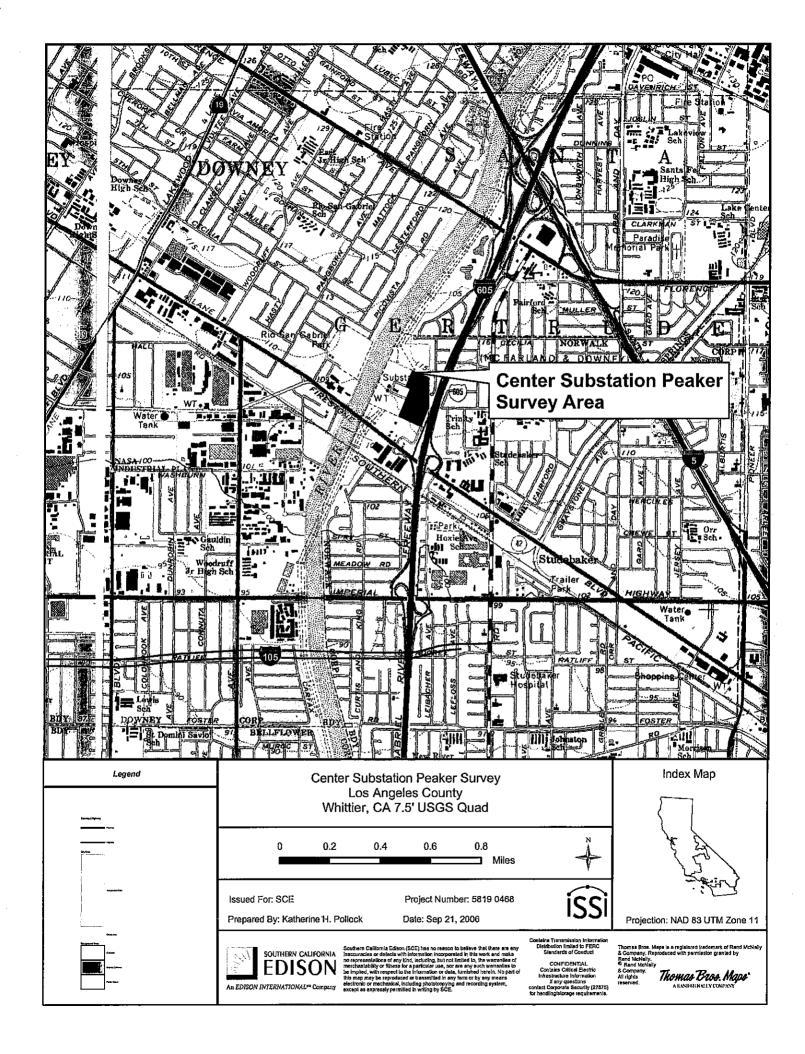
Southern California Edison

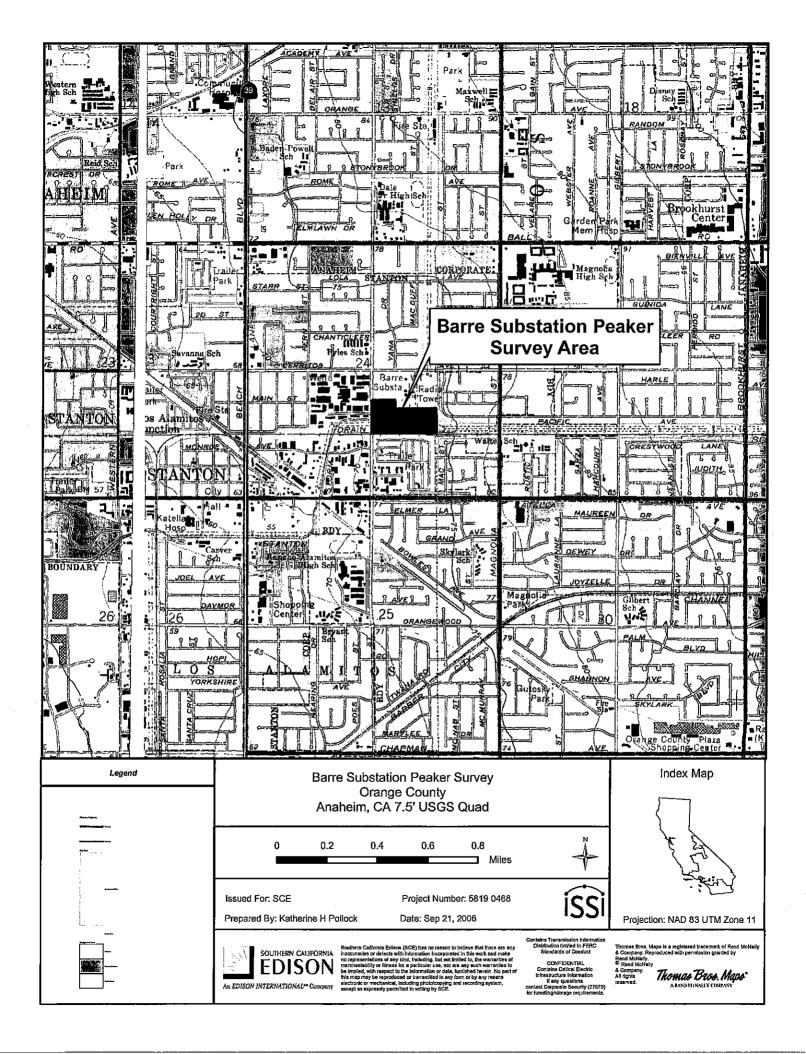
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<u>Arnold Schwarzenegger Governor</u>

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October 6, 2006

Katherine Pollock Southern California Edison

Sent by 626-302-9130 Number of Pages: 5

RE:

Proposed Peaker Project at the Barre Substation, Stanton, Orange County, Peaker Project at the Center Substation, Norwalk, Los Angeles County

Dear Ms. Pollock:

A record search of the sacred land file has failed to indicate the presence of Native American cultural resources in the immediate project area. The absence of specific site information in the sacred lands file does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Enclosed is a list of Native Americans Individuals/organizations who may have knowledge of cultural resources in the project area. The Commission makes no recommendation or preference of a single individual, or group over another. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated, if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe or group. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from any of these individuals or groups, please notify me. With your assistance we are able to assure that our lists contain current information. If you have any questions or need additional information, please contact me at (916) 653-4040.

Sincerely,

Rob Wood

Environmental Specialist III

Native American Contacts Orange County October 6, 2006

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This list is current only as of the date of this document.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050,5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed Peaker Project at the Barre Substation, Stanton, Orange County.

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