

United States Department of the Interior
National Park Service

National Register of Historic Places Registration Form

This form is for use in nominating or requesting determinations for individual properties and districts. See instructions in National Register Bulletin, *How to Complete the National Register of Historic Places Registration Form*. If any item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, architectural classification, materials, and areas of significance, enter only categories and subcategories from the instructions.

1. Name of Property

Historic Name: San Diego Gas & Electric Capistrano Substation Building

Other names/site number: Southern California Edison Capistrano Substation

Name of related multiple property listing:

N/A

(Enter "N/A" if property is not part of a multiple property listing)



2. Location

Street & number: 31050 Camino Capistrano

City or town: San Juan Capistrano State: CA County: Orange

Not For Publication: Vicinity:

3. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act, as amended, I hereby certify that this ___ nomination ___ request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60.

In my opinion, the property ___ meets ___ does not meet the National Register Criteria. I recommend that this property be considered significant at the following level(s) of significance:

___ national ___ statewide ___ local

Applicable National Register Criteria:

___ A ___ B ___ C ___ D

| | |
|--|-------------------------------|
| <p>_____ Signature of certifying official/Title:</p> | <p>_____ Date</p> |
| <p>_____ State or Federal agency/bureau or Tribal Government</p> | |

| | |
|--|--|
| <p>In my opinion, the property ___ meets ___ does not meet the National Register criteria.</p> | |
| <p>_____ Signature of commenting official:</p> | <p>_____ Date</p> |
| <p>_____ Title :</p> | <p>_____ State or Federal agency/bureau or Tribal Government</p> |

4. National Park Service Certification I

hereby certify that this property is: ___ entered in the
National Register ___ determined eligible for the
National Register ___ determined not eligible for
the National Register ___ removed from the
National Register
___ other (explain:) _____

Signature of the Keeper

Date of Action

5. Classification Ownership of Property

(Check as many boxes as apply.)

- Private:
- Public – Local
- Public – State
- Public – Federal

Category of Property

(Check only **one** box.)

- Building(s)
- District
- Site
- Structure
Object

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Number of Resources within Property

(Do not include previously listed resources in the count)

| Contributing | Noncontributing | |
|--------------|-----------------|------------|
| <u>1</u> | _____ | buildings |
| _____ | _____ | sites |
| _____ | _____ | structures |
| _____ | _____ | objects |
| <u>1</u> | _____ | Total |

Number of contributing resources previously listed in the National Register 0

6. Function or Use

Historic Functions

(Enter categories from instructions.)

INDUSTRY: Energy Facility: Electrical Substation

Current Function

(Enter categories from instructions.)

Vacant/Not in Use

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7. Description Architectural Classification

(Enter categories from instructions.)

Late 19th and Early 20th Century Revivals: Classical Revival

Materials: (enter categories from instructions.) Principal exterior materials of the property:

Reinforced Concrete

Narrative Description

(Describe the historic and current physical appearance and condition of the property. Describe contributing and noncontributing resources if applicable. Begin with a **summary paragraph** that briefly describes the general characteristics of the property, such as its location, type, style, method of construction, setting, size, and significant features. Indicate whether the property has historic integrity.)

Summary Paragraph

The Capistrano Substation Building is an electrical substation located on Camino Capistrano in the city of San Juan Capistrano. Construction began in 1917 and was completed in 1918. The building originally exhibited a T-shaped plan, with the top of the T facing Camino Capistrano to the west. The east wing was demolished in 2018, leaving the rectangular-plan west wing near Camino Capistrano. Overall, the building measures 87 feet, 4 inches wide and 32 feet, 4 inches deep. The walls are reinforced concrete, with a flat roof. Windows are multiple light metal casements. The building's western portion (the top of the T) includes elements of Classical Revival architecture and is one-story with a high ceiling. The demolished eastern (rear) portion featured minimal exterior ornamentation, primarily board-formed concrete and two stories. The property retains most elements of historic integrity (see below).

Construction History

The Capistrano Substation Building is located on Camino Capistrano, built for Southern California Edison Co. (SCE) in 1918. This property belonged to the Buchheim family before construction, who were ranchers and orange growers in this area. The substation was originally designed as a complex with the main building facing Camino Capistrano and racks holding lightning arresters, switches, and transformer equipment to the north of the building, where electricity was stepped up or down as needed in order to flow from one SCE to SDCG&E and

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back, since the companies operated on different voltages and frequency (Figures #7, #8, #14, and #15). There were underground conduits from the equipment racks to the interior of the station, where the frequency changers were installed (Figures #18 and #21). A railroad spur extended into the west wing of the building so that the huge transformers could be installed in the frequency changer room (west wing) by means of the heavy-duty crane (Dennis, 1918, 278). High-voltage lines on wooden poles equipped with their own arresters crossed the site on from the vicinity of the outdoor equipment racks and substation to its eastern boundary, after which one turned north toward SCE's Katella substation, and the line to Oceanside turned toward the south. A garage, water tower, cooling tower and three "Troublemen's Cottages" were sited at the rear of the substation to the east. The largest of these cottages was designated as the "Operator's Cottage" and was where people went to pay electric bills. The architecture of the main building features elements of Classical Revival architecture, and is an excellent example of the Monumental subtype of SCE's substations.

Detailed Description: Building Exterior

The main substation building (originally the west wing of the building) faces Camino Capistrano and measures 87 feet 4 inches wide, 32 feet 4 inches deep, and 30 feet 8 inches high (Figure #2). This building was intended to house the mechanical and electrical components of the substation and its frequency changers were located in the west wing. It is a single story reinforced concrete building with a high ceiling. Entry was by double doors on the north and south elevations. The primary public façade facing Camino Capistrano had five windows and no doors. A rail system connected the substation frequency changer room with a transformer pad on the north side of the site. Some of the rails are still visible in front of the entrance to the frequency changer room.

The five windows on the western (primary) façade are metal sash divided into 30 lights, five lights wide by six high. Above each window is a transom-like rectangle. Broad mullions separate the five windows, which are centered on the western wall. A band molding runs parallel to the window sills. Beneath the band molding is a concrete band suggesting a plinth. Above the windows are an architrave and a frieze bearing the words SAN DIEGO GAS & ELECTRIC beneath a projecting cornice (according to original plans, the frieze read SOUTHERN CALIFORNIA EDISON COMPANY, and was altered circa 1940). Above the cornice is a flat parapet. The northern and southern facades have identical sets of double doors, flanked by sidelights and topped by transoms of divided metal-sash windows. The eastern side of this portion of the building has two windows, corresponding to the northern and southern windows on the west wall, with an opening at the center that where the east wing was originally connected to the building. The concrete on the western portion of the building has a smooth stucco finish. The roof is flat and set well below the level of the parapet, parallel with the projecting cornice.

Building Interior

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Inside the frequency changer room is a Maris Brothers heavy duty electric crane used to lift equipment and relocate it within the building. Equipment could be rolled into the building via carts on rails in the floor or other vehicles backed into the building.

Exhibit #7, #8, #9

The South side:

The south elevation is very similar to the north side of the building.

On the front part of the former location of the machine shop is a large entrance door. It has the same 7 windows as seen on the north side, which today are boarded up.

Photo # 5, # 6, # 7

Setting of Building

The Capistrano Substation Building is located on Camino Capistrano, which was the main road that connected Los Angeles and San Diego prior to 1918 and remains one of the city's major roads. The setting of the substation was originally designed as a complex with the main building facing Camino Capistrano with the transformer equipment and railroad spur on the north side of the building. There were several ancillary buildings including the garage, water tower, cooling tower and three "Troublemens' Cottages" at the rear.

One of these cottages was the place where people went to pay their electric bill. Older people who grew up in San Juan Capistrano recall that when they were kids they loved to go with their parents to the substation because the operator who collected the money always had cookies for them.

In 1960 the SDG&E Company decided that the 3 cottages were no longer needed. One of them was destroyed, two of them were removed to the area of the Historic Los Rios District and restored. In addition, the company removed the machinery from the interior of the substation. They left the Maris Bros. Hoist, manufactured in Pennsylvania, a very important piece of equipment designed to lift heavy loads and maneuver them throughout the machine room. This machine is still intact and could be used today. The removal of the three cottages and the garage had little visual impact on the front of the property. The substation has retained its 1918 appearance; the only substantial change was the signage under the eave that originally showed the name Southern California Edison Co. This was altered in 1940 to San Diego Gas and Electric Company, within the property's period of significance. This building still occupies a prominent site on Camino Capistrano and played an important role in the history of electrical generation in the region and both the SCE and SDG&E companies.

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Historic Integrity

The property retains integrity sufficient for National Register listing under Criterion A in all seven aspects for the following reasons:

1. Location: The substation is in its original location facing Camino Capistrano and has not been moved, thus it retains integrity of location.
2. Design: The design of this substation, constructed in 1918, is remarkably unaltered. Its Classical Revival architecture is typical for a utility-company building of the period, with a primary façade featuring decorative elements and company name and plain secondary facades. Smooth concrete wall finishes, tall windows, and large doors add grandeur to the building's Monumental style, which was an important subtype for SCE and a key element of the company's brand. Alterations over the decades have included a loading dock addition on the north side of the building and replacement of the original main entry doors. Originally the name on the main facade read "Southern California Edison Co." which in 1940 was changed to "San Diego Gas & Electric Company." This alteration was performed within the building's period of significance and demonstrates its history of use. It thus does not detract from the building's historic integrity. In 2018, the more utilitarian east wing of the building was demolished while the more architecturally elaborated west wing was retained. Other alterations to the building are minimal; thus, the property retains integrity of design.
3. Setting: The neighborhood around the substation complex has transitioned from the orchards that were there before construction of the Capistrano Substation Building to a residential neighborhood - in part because of the development was spurred by the substation's presence, which provided reliable high-voltage electrical power to the region. In 1918, the substation property itself was dominated by the Monumental substation building near the road. Immediately to the north of the substation building was an array of outdoor equipment: transformers, lightning arresters, and switching machines installed on large racks. There was a railroad spur near this equipment, and power lines supported by tall wooden posts passed above it. The cottages, garage, water tower, and cooling tower were all located to the rear of (and were much smaller than) the substation building. Ancillary buildings were removed about 1960, which altered the setting only slightly, since they were behind and visually subordinate to the substation building. Exterior equipment was relocated in the 1960s from its original site north of the building to a larger complex approximately 300 feet east of the building, but the building is still proximate to similar electrical equipment. High voltage power lines run directly south of the building, also indicative of the industrial/electrical setting of the property and an element of continuity of its setting. The overall setting remains that of an industrial electrical generation facility. Thus, the property retains sufficient integrity of setting despite loss of ancillary buildings and changes to equipment.
4. Materials: The reinforced concrete exterior walls and most of the metal casement windows are still present and intact. The electrical substation equipment has been removed from the

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building but this equipment was generally not visible from the building exterior, especially areas visible to the public. Subsequent alterations and additions to the property are minimal (loading dock, conversion of window to door, removal and covering of casement window frames, removal of utilitarian east wing.) Thus the property retains sufficient integrity of materials to retain eligibility.

5. Workmanship: Although research did not reveal specific information about its builders, the Capistrano Substation Building is likely to have been constructed in-house by SCE Edison employees like others of this subtype the company built during this period. The 1918 building is an early example of the use of reinforced concrete, which was not widely used until the 1920s. The building's construction required workmanship that could produce a durable and fire-resistant industrial building with a utilitarian purpose while incorporating the Classical Revival architectural details that demonstrated the stability and significance of the company. These details include the parapet, projecting cornice, decorative panels above the windows, and frieze bearing the company name, which are unaltered or only slightly altered since its original instruction. The property thus retains integrity of workmanship.

6. Feeling: This building through the years has become an important landmark for the immediate area, and evokes the feeling of an early twentieth century electrical substation. The building's integrity of location, design, setting, materials, and workmanship combine to express the site's theme of power generation and transmission. Thus, the property retains integrity of feeling.

7. Association: This substation is associated with the regional connection between San Diego and Los Angeles and the development and expansion of power utilities during the early decades of the twentieth century as power companies extended service to domestic customers. Its construction in 1918 made development of Orange and parts of Los Angeles County possible. It was the only source of electricity at that time and provided services that permitted Orange and Los Angeles County to support larger populations and development. The property is still owned by SDG&E and continues in its original use as a site of electrical transformation and distribution. Thus, the property retains integrity of association.

Essential Physical Features

The property's essential physical features are based on the overall appearance and presence of the substation building, the public face of the site and essential element of the SCE brand. The primary and secondary facades retain a generally high level of historic integrity in the aspects outlined above, based on individual assessment of the property and comparative analysis with comparable resources located in California. The building interior and surrounding complex has had significant alteration, but as a property closed to the public, the loss of interior substation equipment does not constitute a loss of integrity significant enough to preclude listing under Criterion A. Outdoor equipment changed over time as technology advanced and was ultimately moved to a different location on the site, but electrical use remains on the property and is visible. The property's features are visible enough to convey their significance, not concealed under

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modern construction. In the case of windows and doors, covered only with plywood, original windows and doors are retained under a temporary covering.

8. Statement of Significance.

Applicable National Register Criteria

(Mark "x" in one or more boxes for the criteria qualifying the property for National Register listing.)

- A. Property is associated with events that have made a significant contribution to the broad patterns of our history
- B. Property is associated with the lives of persons significant in our past.
- C. Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction
- D. Property has yielded, or is likely to yield, information important in prehistory or history.

Criteria Considerations

(Mark "x" in all the boxes that apply.)

- A. Owned by a religious institution or used for religious purposes
- B. Removed from its original location
- C. A birthplace or grave
- D. A cemetery
- E. A reconstructed building, object, or structure
- F. A commemorative property

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G Less than 50 years old or achieving significance within the past 50 years

Areas of Significance

(Enter categories from instructions.)

Engineering

Period of Significance

1917-1964

Significant Dates

1918 (building completion)
1928 (building sale)

Significance cont.

Significant Person

(Complete only if Criterion B is marked above.)

Cultural Affiliation

Architect/Builder

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Statement of Significance Summary Paragraph (Provide a summary paragraph that includes level of significance, applicable criteria, justification for the period of significance, and any applicable criteria considerations.)

The Capistrano Substation Building is eligible for the National Register under Criterion A at the local level of significance for the property's association with electrical power distribution in Southern California. This substation was the original location where electrical power distribution networks in Los Angeles and San Diego were connected, providing long-range electrical power distribution to this portion of Orange County for the first time. The substation stepped power up and down to allow the higher-frequency Los Angeles power system to provide power to the lower-frequency San Diego system and vice versa, a function that was located in the frequency changer room in the west wing. The Capistrano Substation Building is also eligible under Criterion C for its architecture. With its smooth reinforced-concrete walls, massive form, heavy cornice with parapet, metal industrial-sash windows, and restrained Classical Revival details, it is an excellent example of architecturally-designed Monumental substations constructed by SCE Edison during the early twentieth century. These substations were important symbols of the company in addition to their utilitarian function as shelter for electrical equipment.

The property's period of significance is 1917-1964, the period from the property's construction until the end of the property's function as an electrical substation.

Narrative Statement of Significance (Provide at least **one** paragraph for each area of significance.)

Criterion A: Engineering/Electrical Power Distribution in Orange County

The Capistrano Substation Building is the earliest surviving electrical utility building in Orange County and played significant role in the development of San Juan Capistrano and this region of Orange County, with close ties to the history of San Diego. The building is directly associated with the SCE's expansion and growth in the wake of regional efforts to expand hydroelectric power capacity in the Los Angeles area, and its presence facilitated the suburban growth of San Juan Capistrano through reliable transmission of electrical power.

In 1914, San Juan Capistrano, which had been a small rural community midway between Los Angeles and San Diego, experienced an increase in visitors to the Mission San Juan Capistrano and its businesses. Residents called this period "San Juan's decade of progress." Most of the advancements were technological: electricity, telephone and paved streets. By 1916, however, residents were still using kerosene lanterns and wood stoves. The rural community received electricity the first week of 1917, when SDCG&E extended service from San Diego. Several months later, the much larger SCE announced plans to run electrical lines from Anaheim to San Juan Capistrano in order to sell wholesale electricity to San Diego County (Santa Ana Register, 1917). SDCG&E constructed a high-voltage transmission line from Oceanside to San Juan Capistrano the same year. The new high-voltage line allowed the San Diego company to connect

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to the bigger Southern California Edison and its abundant hydroelectric power. SCE constructed its own high-voltage line from its Katella Substation in Santa Ana in order to sell wholesale power to SDCG&E. SCE built the Capistrano Substation Building on Camino Capistrano and installed transformers to step electricity up and down since the two companies operated with different voltages and at different frequencies. The subject property served as this connecting point, forming an important part of the electrical infrastructure of Orange County until 1964 when the electrical components were removed from the substation. The substation represents the connecting point for two major southern California electric utility companies during a period of enormous regional growth, and is an important nexus of connection between the Los Angeles and San Diego metropolitan areas. Building this substation was a key to the development and expansion of SCE's extensive network of transmission and distribution lines and additional substations throughout Southern California. Subsequent urban development in San Juan Capistrano and the region was stimulated by the expanded access to electric power enabled by the Capistrano Substation.

In 1928, San Diego Consolidated Gas & Electric Company purchased the Capistrano Substation from SCE. In approximately 1940 the name on the building's main façade frieze was changed from "Southern California Edison" to the present "San Diego Gas and Electric Company," as it is shown above the boarded up windows on the West side of the building facing Camino Capistrano.

Historic Context: San Diego Gas & Electric Company

San Diego Gas & Electric's earliest predecessor company was formed in 1881 by a group of San Diego citizens who decided to supply gas service to the city, formed as the San Diego Gas Company. Their initial product was oil gas (a synthetic gas made from crude petroleum) but it was replaced by coal gas in 1883 due to impurities in the generated oil gas carrying unprocessed oil and tar into the mains. In 1886 the company diversified into electric power generation, powering electric art streetlights, installed by the Jenney Electric Company. In the same year the company was purchased by E.S. Babcock, a businessman involved in the development of Coronado. Babcock renamed Jenney Electric to the Coronado Gas and Electric Company in 1887. Babcock originally announced plans to start his own gas company, but instead offered to consolidate with San Diego Gas Company. SDGC agreed, and reincorporated as San Diego Gas & Electric Light Company in May of 1887.

San Diego's land boom of the late 1880s provided increased business for the fledgling company, as the city grew from 4000 people to more than 30,000. The city's first incandescent lighting service began in 1888, using the same power plant used to power electric streetcars. The streetcar company failed quickly, but the generated was utilized for incandescent lighting. In 1892, SDG&ELC purchased the powerplant for its own use. Collapse of the city's real estate bubble in 1889 slowed company growth until 1905.

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A new land boom, beginning in 1902, spurred reinvestment in electrical and gas capacity. In April 1905 the company H.M. Byllesby & Company purchased the utility and reincorporated again as the San Diego Consolidated Gas & Electric Company (SDCG&E). The company began to expand service outside San Diego city limits to nearby communities, and at the start of 1917 extended electrical service to San Juan Capistrano (Santa Ana Register, 1917). New turbine-electric generators and the beginnings of high-voltage transmission lines were the hallmarks of this period. In early 1918, the company constructed its first high-voltage transmission line, a 66 kV line that stretched 78.5 miles from Oceanside to San Juan Capistrano, where it connected with Southern California Edison's transmission system. The purpose of the new line was to gain access to SCE's hydroelectric power when SDCG&E's steam generating plant fell short. SDCG&E also wanted to conserve the oil it used to power its steam plant, and projected a savings of 140,000 barrels a year (Klauber, 1918, 272). A severe drought in 1919, however, led to a shortfall for SCE, and SDCG&E sent surplus power north that year, marking the first transfer between the companies. In 1928, SDCG&E acquired Capistrano Substation from SCE. In 1940, the name of the company was changed to San Diego Gas & Electric Company (CH2M Hill, 2007, Bill Dyke, 1965).

Historic Context: Southern California Edison

SCE's first predecessor company was the West Side Lighting Company, formed in 1896. WSLC merged with Los Angeles Edison Electric, a company that owned the rights to Thomas Edison's name in southern California, operating direct-current electric generators. In 1901, John Barnes Miller took the helm of Los Angeles Edison Electric, acquiring smaller utility companies and building power plants. Long-distance power transmission began in 1907 with the Kern River-Los Angeles Transmission Line, running 118 miles and supported by steel towers. The company was renamed Southern California Edison in 1909 (Lehman Brothers Collection, Harvard Business School).

Another major predecessor of SCE was Pacific Light and Power, an electric utility founded by streetcar magnate Henry Huntington. Huntington used his experience building street railways in San Francisco, in combination with land development and power companies, to consolidate a triad of companies in Los Angeles. Huntington is best known for his ownership of Pacific Electric, an interurban electric railroad and streetcar company, but his holdings also included the Los Angeles Railway, a local streetcar company, a real estate company, Huntington Land & Improvement Company, and Pacific Light & Power Company. The latter two companies were formed in 1902 in order to purchase land and develop them as suburban subdivisions, and to generate electrical power for Huntington's electric railroads and the new residents of those subdivisions. This development "triad" of streetcar, suburb and power became a highly profitable venture for Huntington during a period of rapid expansion in Los Angeles. Later acquisitions of gas companies allowed him to supply natural gas to these subdivisions, also operated by Pacific Light & Power (Friedricks, 1991).

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As electric utilities in the Los Angeles region made greater and greater use of hydroelectric power, PL&P expanded with a new station on Big Creek, opened in December 1913. This station provided so much power that surplus could be sold to SCE and Los Angeles Gas & Electric, the other two major utilities operating in the region. The creation of the Owens Valley Aqueduct in 1915, and the city of Los Angeles' intent to build hydroelectric power stations along the aqueduct, motivated Huntington to pursue consolidation of all three companies. Already-complex negotiations between the three companies and local government were made even more complicated by an effort to create a municipal Los Angeles power company. The negotiations were concluded in December of 1916 with defeat of the municipalization effort. In the spring of 1917, the merger was approved, and PL&P was reorganized as part of SCE (Friedricks, 1991; Fogelson, 1993). This merger set the stage for accelerating regional connections, including expansion into Orange County and connection with SDCG&E's network at San Juan Capistrano, where construction of a new substation began in 1917.

SCE constructed a 30-mile long high-voltage line from its Katella Substation near Santa Ana to the new station in San Juan Capistrano (Dennis, 1918, 278). Power needed to be stepped up or down at Capistrano Substation (completed in 1918) because the companies operated on different frequencies: SCE generated at 50 cycles and SDCG&E at 60 cycles. SCE was eager to sell wholesale electric power to San Diego, and took responsibility not only for the station's construction, but also installation of the frequency changing equipment and the ongoing operation of the facility (Klauber, 1918, 272).

Criterion C: Architecture and Design

During the early twentieth century, power companies often designed architecturally significant and even ornate buildings to house industrial processes within. From c1909 through the 1930s, SCE constructed substations and other facilities to reflect a wide variety of popular architectural styles of the era. Classical Revival, Mission, and Spanish Revival were among the styles utilized. Some substations were designed to fit into existing neighborhoods and reflected the styles of their settings, and in some cases mimicked residential, religious, or civic buildings.

SCE's Monumental substations were a subtype of the company's architectural programming that were constructed between 1912 and c1924. They are defined by their materials, form and massing, and use of simplified classically-inspired ornament. Original plans and elevations do not reveal the names of individual architects or engineers. Monumental substations were designed and constructed in-house by SCE, and elements of the program reused repeatedly. Reinforced concrete construction created a durable and fire-resistant building suited to its utilitarian purpose, and its smooth surfaces were compatible with Classical Revival detail and allowed for flexibility and ornament without compromising the industrial program. Monumental substations were rectangular in plan or composed of rectangular units, with strict symmetry of main facades adding formality to the relatively simple buildings. Formality was also emphasized through imposing massing: buildings with a single story were given tall windows, high ceilings, cornices, and parapets to highlight monumentality. The imposing nature of these buildings served to demonstrate the permanence and significance of SCE as an institution, a message

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highlighted by the inscription bearing the company name on a frieze at the cornice. The Capistrano Substation Building, with its formal symmetry, heavy cornice and parapet, and simple Classical Revival details is an excellent example of this architectural subtype. It clearly demonstrates SCE's commitment to investing in substation buildings which furthers its branding goals by emphasizing the permanence and importance of the company.

Comparative Analysis

A historic property evaluation prepared in 2008 recommended the Capistrano Substation Building as lacking integrity based on removal of original electrical equipment from the property. Therefore, the following comparative analysis has been prepared in order to assess how the impact of equipment changes on integrity has been assessed in previous NRHP listings for late nineteenth and early twentieth century power company buildings. Comparative analysis with other similar properties (substations and electrical power generators) and either NRHP-listed or determined eligible for listing by Section 106 consensus demonstrates that the loss of internal mechanisms and equipment, upgraded or alteration to surrounding structures associated with electrical power distribution, and loss of ancillary buildings on such sites have not been considered to result in a loss of integrity for properties associated with the context of electrical power generation and distribution. These studies also demonstrate the importance of architecturally significant buildings to power company branding as well as the common practice of electrical utility buildings with decorative primary facades and utilitarian secondary facades, providing a more attractive public "face" to the building but lowering overall building costs by excluding decoration where it would not be visible to the public. The studies discussed below were undertaken over a period of over 50 years and as recently as 2016. The examples discussed below are a sampling of those available, and were selected for their relevance to the Capistrano Substation Building context. They include PG&E as well as SCE buildings, and range across a wide geographic area including Northern California's Bay Area and Sacramento regions; the San Joaquin Valley in Central California; and various communities in Southern California's Los Angeles, Orange, and San Bernardino Counties. The specific aspects of integrity the Capistrano Substation Building is discussed in Section 7.

Jessie Street Substation in San Francisco, California, was NRHP-listed in 1974 after a 1968 property survey. The building was constructed by the San Francisco Gas & Electric Company in 1881. The building underwent two enlargements in 1883 and 1892, and in 1905 was selected for an architectural update, featuring design by architect Willis Polk. Some of the work for this building rehabilitation was underway when the 1906 San Francisco earthquake resulted in severe damage to the station. Polk drew up new plans following the earthquake, and the substation was reopened in 1909. The primary façade facing Jessie Street is highly decorated in a Beaux Arts motif, incorporating masonry brick and terra cotta architectural embellishments, but the secondary facades are undecorated masonry walls, incorporating several older portions of the building as expanded over the years. The property was no longer in use as a substation at the time of listing, its electrical equipment having been removed years earlier (Corbett, 1974).

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PG&E Powerhouse in Sacramento, California was listed in the National Register in 2010. The building was constructed in 1912 as an oil-burning electrical generator facility, intended to supplement Pacific Gas & Electric's hydroelectric power system on the American River, based in Folsom. Architect Willis Polk also designed this building for PG&E. The powerhouse is constructed of reinforced concrete, featuring a primary façade that incorporates elements of Beaux Arts and Classical Revival architecture, including horizontal scoring that mocks courses of stone. The western half of the building's three walls feature other elements, including massive doors with arched entrances topped with cartouches, a roof parapet with shallow pediment form above each arch, and the words "Pacific Gas and Electric" embossed in concrete. This façade faces the Sacramento River, an aspect visible to passengers of riverboats and Southern Pacific Railroad trains on the I Street Bridge a few hundred yards south of the powerhouse. However, the rear portions of the building are simple board-formed reinforced concrete on the sides facing the Southern Pacific Shops across Jibboom Street, a heavy industrial area. The plant ceased operation in 1954 and all boilers, electrical generators, smokestacks and other salvageable metal components of the powerhouse were removed by 1965. Despite this loss of electrical equipment, the property was listed in the National Register under Criteria A and C, acknowledging the building's role as an electric power station (albeit secondary to the hydroelectric system) in addition to its architectural distinction (Boghosian and de Courcy, 2010).

SCE Vestal Substation in Richgrove, Tulare County, California, was listed to the NRHP in 2016 as a contributor to the Big Creek Hydroelectric System Historic District. The substation, which SCE completed in 1920, was constructed to support transmission and provide local distribution to Tulare County farms. The poured concrete building features restrained Classical Revival details including parapet, heavy cornice, and massive arched entryways and windows with industrial metal sash. Alterations to the building have included minor changes to windows and entryways and removal of a railroad spur, and aerial photographs demonstrate upgrades to exterior electrical equipment over the decades, as well as changes to equipment placement. The NRHP Registration form states:

While the Vestal Substation has been augmented through alterations to operating equipment and the placement of several modest additions, the overall form and utility function of the substation has been retained to the present...The property continues to reflect the engineering, design, and functional attributes that undergirded the property's development...

The nomination form further states that contributors to the district exhibit "integrity of operation," i.e., continue to function as elements of a power distribution system. The nomination form also specifically states that upgrades to exterior transmission and distribution equipment at substations did not result in a loss of integrity (Pollack, Allen, & Peabody, 2015).

SCE Company Substations: Monumental Type HAER no. CA-2318, October 2015, SCE developed a typology for historically significant substations in order to aid with identification and management. The report found that c1909-c1930, SCE developed substations in which utilitarian activities were housed within buildings designed to reflect popular architectural styles and sometimes incorporating ornate decorative features. Architectural Historians defined six

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types of architecturally-designed substations and identified 13 extant examples of the “Monumental” type. Monumental substations are more than one story in height, concrete construction, and designed to “convey a substantial presence and formal appearance through massing and scale.” They are rectangular in plan, utilize recessed panels or a prominent cornice to enhance monumentality, and frequently feature restrained Classical Revival detail. Of the substations documented, Bixby, Chino, Colton, Newmark, and Puente (all constructed 1912-1924) closely resemble the Capistrano Substation Building. Minor alterations have been performed to all, and all were found in the HAER report to retain integrity. Although exterior equipment was not a primary focus of the integrity discussion for these five substations, most remain in use and therefore equipment would have been updated many times over the decades.

Comparative Analysis Conclusion

There are other examples of listed substations and power generation facilities in California, but few retain their power generation or transmission equipment. Generally, the removal of this equipment marked a change in use or historic context that marks the end of the period of significance. The properties listed above demonstrate multiple comparative examples of electric power transmission and generation sites determined eligible for or listed in the National Register of Historic Places despite having their power transmission components removed many years before listing. All date from the late nineteenth or early twentieth century like the Capistrano Substation Building. Each has a clearly identified area of significance, including architecture, urban or rural development, transportation, and engineering.

The Capistrano Substation Building shares common features with other nominated substations, including a decorated primary façade with simplified secondary facades, removed electrical equipment, and a clearly identified historic context for its association with the first linkage of two major suppliers of electrical power during an era of dramatic suburban development and expansion of electrical power capacity in southern California. Like other listed electrical facilities, it was architecturally designed in order to promote its power company’s image in the community and served as a symbol of the company.

9. Major Bibliographical References

Bibliography (Cite the books, articles, and other sources used in preparing this form.)

- Boghosian, Paula and Sean de Courcy. "National Register of Historic Places Nomination Form: PG&E Powerhouse." National Park Service, 2010.
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- Dennis, H.W. "New Capistrano Substation." The Journal of Electricity. Technical Publishing Company, San Francisco, January-June 1918.
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Santa Ana Register.

"An Electric Blaze where Padres Saw Candles Flickering." January 8, 1917.

"Thousands Will be Spent in Extending Service." August 23, 1917.

"Southern California Edison Company." Lehman Brothers Collection, Harvard Business School Baker Library, accessed 2/20/2015.

http://www.library.hbs.edu/hc/lehman/chrono.html?company=southern_california_edison_company.

Thomas, Harold. "National Register of Historic Places Nomination Form, Pacific Electric Sub-Station #14." National Park Service, 1983.

Tryon, Mary Ellen. *A Guide to Historic San Juan Capistrano*. Paragon Publishers, 1999.

Underbrink, Susan. Letter to State Historic Preservation Officer, dated May 16, 2013.

Previous documentation on file (NPS):

preliminary determination of individual listing (36 CFR 67) has been requested

previously listed in the National Register

previously determined eligible by the National Register

designated a National Historic Landmark

recorded by Historic American Buildings Survey # _____

recorded by Historic American Engineering Record # _____

recorded by Historic American Landscape Survey # _____

Primary location of additional data:

State Historic Preservation Office

Other State agency

Federal agency

Local government

University

Other

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Name of repository: City Hall, San Juan Capistrano

Historic Resources Survey Number (if assigned): _____

Geographical Data

Acreege of Property Less than 1 acre

Latitude/Longitude Coordinates

Datum if other than WGS84: _____
(enter coordinates to 6 decimal places)

1. Latitude:

Longitude:

Verbal Boundary Description (Describe the boundaries of the property.)

The boundary is the immediate footprint of the Capistrano Substation Building.

The West Side of the building faces Camino Capistrano

To the South is Calle Bonita

To the North is Calle Lorenzo

Way back of the Property on the East Side is Calle Rosalia

Boundary Justification (Explain why the boundaries were selected.)

The boundary is the footprint of the building upon the original parcel upon which the substation was located upon its completion in 1918. Because the surrounding ancillary equipment is no longer extant, the boundary does not extend to the entire parcel originally utilized by the building and its ancillary equipment.

See Assessors Block and Parcel Map, March 1967.

10. Form Prepared By

name /title: Ilse M. Byrnes and Kara Brunzell
organization: _____

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street & number: PO Box 1029
city or town: San Juan Capistrano state: CA
zip code: 92693
e-mail ilse.byrnes@gmail.com telephone: (949) 493-
4222 date: 11/11/2014

Additional Documentation

Submit the following items with the completed form:

- **Maps:** A **USGS map** or equivalent (7.5 or 15 minute series) indicating the property's location.
- A **Sketch map** for historic districts and properties having large acreage or numerous resources. Key all photographs to this map.
- **Additional items:** (Check with the SHPO, TPO, or FPO for any additional items.)

Photographs

Submit clear and descriptive photographs. The size of each image must be 1600x1200 pixels (minimum), 3000x2000 preferred, at 300 ppi (pixels per inch) or larger. Key all photographs to the sketch map. Each photograph must be numbered and that number must correspond to the photograph number on the photo log. For simplicity, the name of the photographer, photo date, etc. may be listed once on the photograph log and doesn't need to be labeled on every photograph.

Photo Log

Name of Property: San Diego Gas and Electric Building

City or Vicinity: San Juan Capistrano

County: Orange State: CA

Photographer: Ilse M. Byrnes

Date Photographed: Feb. 2013

Description of Photograph(s) and number, include description of view indicating direction of camera: 1 of 8

1. West side of building facing Camino Capistrano

2. Name of building on West side

3. North side - entrance to machine room with Railroad tracks barely visible

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- # 4 North side -entrance to machine room and extension of building with ramp and doorway
- # 5. View of building South/East showing the T shape.
- # 6. Close up of South side
- # 7. South side main door to machine room
- # 8 . View to East of surrounding area

Figure Log (See continuation sheets)

Historic Figures: (Southern California Edison)

- # 1. Capistrano Substation – Detail, Layout of Irrigation System, 1918.
- # 2. Capistrano Substation – Detail, West Elevation, 1917.
- # 3. Capistrano Substation – Detail, Sectional (east) Elevation, 1917.
- # 4. Capistrano Substation – Detail, North Elevation, 1917.
(Huntington Digital Library Collection, 1917-1923)
- # 5. Capistrano Substation site prior to construction, 1917.
- # 6. Substation under construction, 1918.
- # 7. Substation showing exterior equipment racks under construction 1918.
- # 8. Substation showing exterior equipment racks, 1918.
- # 9. Wood transmission pole with incoming line, garage, and substation, 1918.
- #10. Substation with construction camp, 1918.
- #11. Substation from the same angle after completion, 1919.
- #12. Substation under construction from Camino Capistrano, 1918.
- #13. Substation after completion from Camino Capistrano, 1919.
- #14. Racks with transformers, 1918.
- #15. Arresters, racks, and transformers, 1919.
- #16. Capistrano Substation Building at night, 1919.
- #17. Interior with pumps and motors, 1918.
- #18. Interior with frequency changers, 1918.
- #19. Interior with switchboard, 1918.
- #20. Switchroom, 1919.
- #21. Frequency changer with hoist in background, 1919.
(NRHP Database)
- #22. PG&E Jessie Street Substation, San Francisco, photograph Charles Hall Page, April 22, 1974.
- #23. PG&E Sacramento River Substation B, Sacramento, 1924.
(Huntington Digital Library Collection)
- #24. Monumental style Vestal Substation, Richgrove, California, 1921.
- #25. Monumental style Puente Substation, City of Industry, California, 1913.
- #26. Monumental style Colton Substation, Colton, California, 1923.

Exhibits: (See continuation sheets)

- # 1. Capistrano Substation Property Plan
- # 2. Remnants of the Rail Road Tracks
- # 3. Details of roof line
- # 4. Architectural Diagram of West and East side of building

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- # 5. Architectural Diagram East side of building
- # 6. View of East side
- # 7 Architectural Diagram North side
- # 8 . Interior view of crane in machine room
- # 9 Makers mark on crane
- # 10. Detail of crane

Paperwork Reduction Act Statement: This information is being collected for applications to the National Register of Historic Places to nominate properties for listing or determine eligibility for listing, to list properties, and to amend existing listings. Response to this request is required to obtain a benefit in accordance with the National Historic Preservation Act, as amended (16 U.S.C.460 et seq.).

Estimated Burden Statement: Public reporting burden for this form is estimated to average 100 hours per response including time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding this burden estimate or any aspect of this form to the Office of Planning and Performance Management, U.S. Dept. of the Interior, 1849 C. Street, NW, Washington, DC.

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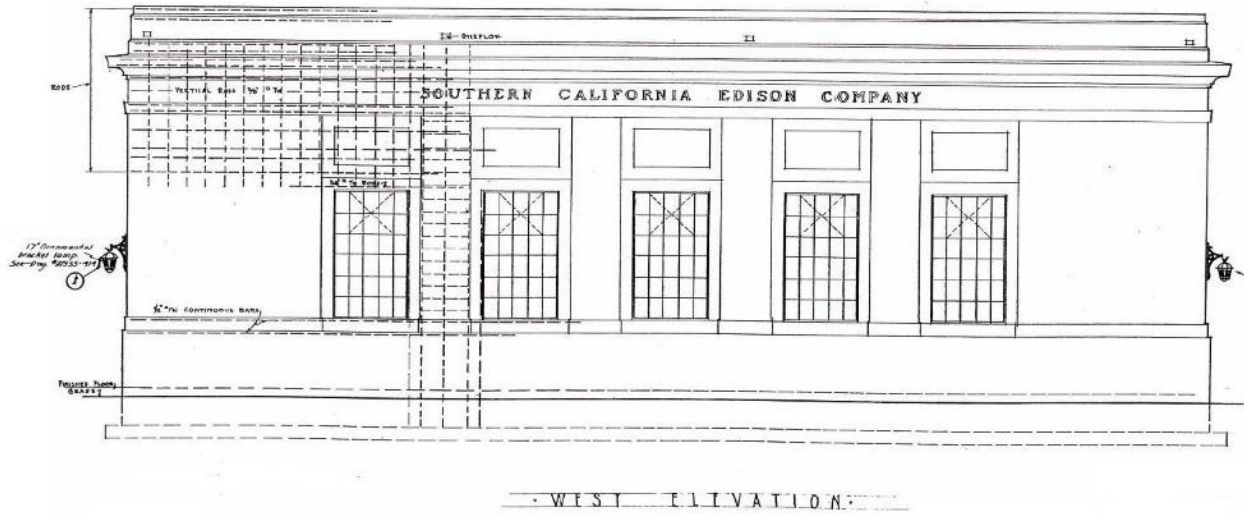


Figure 2: Capistrano Substation detail, front elevation, 1917.

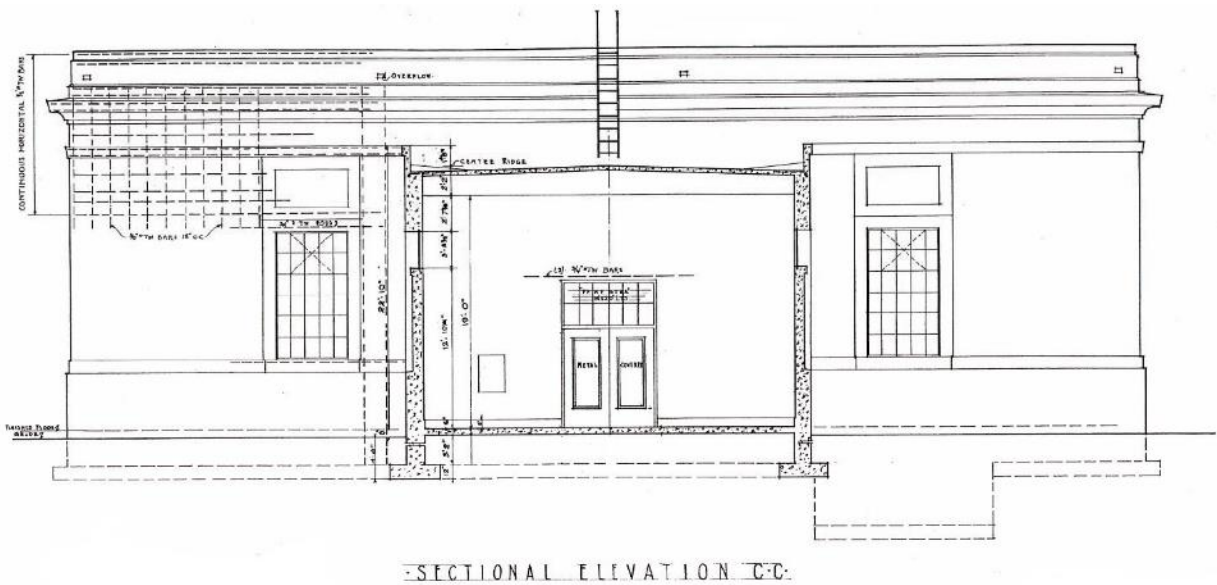


Figure 3: Capistrano Substation detail, rear elevation, 1917.

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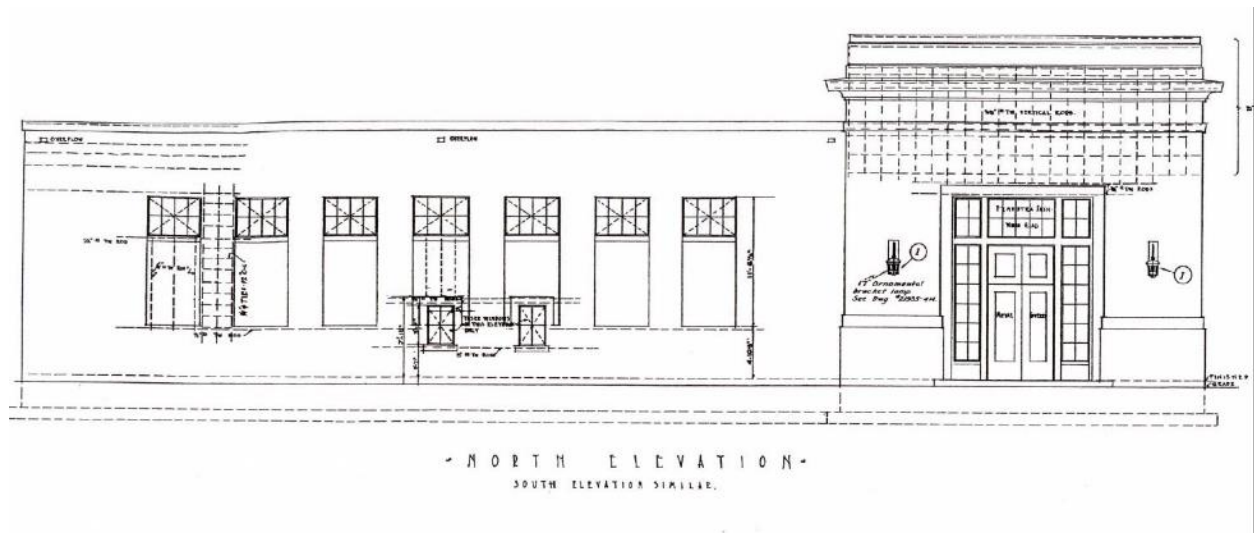


Figure 4: Capistrano Substation detail, north elevation, 1917.



Figure 5: Capistrano Substation site, September 20, 1917.

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Figure 6: Capistrano Substation under construction, January 21, 1918.



Figure 7: Capistrano Substation showing exterior equipment racks under construction with operator's cottage upper right, April 10, 1918.

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Figure 8: Capistrano Substation showing exterior equipment racks, April 10, 1918.



Figure 9: Wood transmission pole with incoming line, garage, and substation, April 10, 1918.

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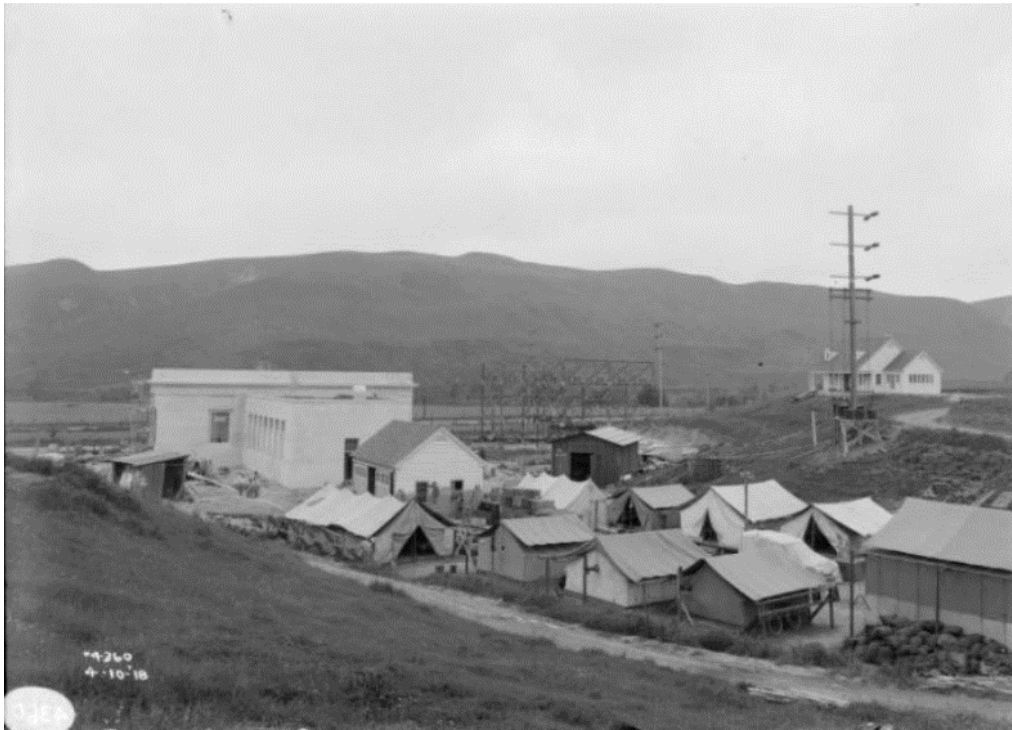


Figure 10: Capistrano Substation with construction camp in foreground, operator's cottage upper right, and garage directly in front of substation building, April 10, 1918.



Figure 11: Capistrano Substation from the same angle after completion, January 13, 1919.

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Figure 12: Capistrano Substation under construction from Camino Capistrano, 1918.



Figure 13: Capistrano Substation after completion from Camino Capistrano, 1919.



Figure 14: Racks and transformers, June 26, 1918.



Figure 15: Arresters, racks, and transformers, January 13, 1919.

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Figure 16: Capistrano Substation at night, May 1, 1919.

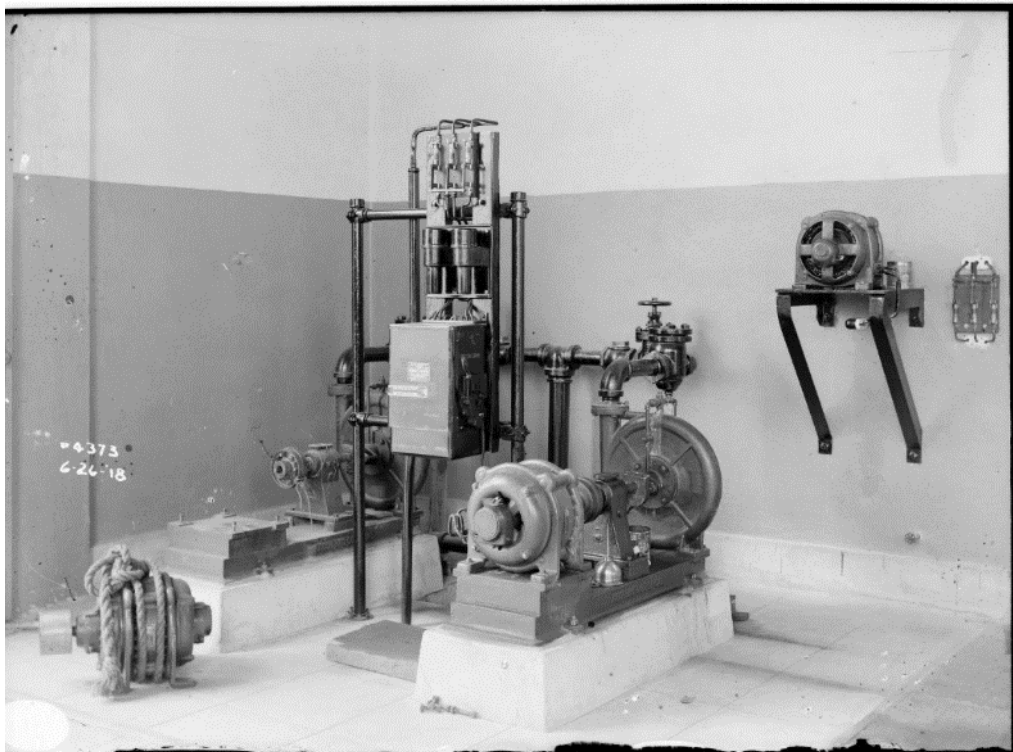


Figure 17: Interior Capistrano Substation, pumps and motors, June 26, 1918.



Figure 18: Interior Capistrano Substation, frequency changers, June 26, 1918.

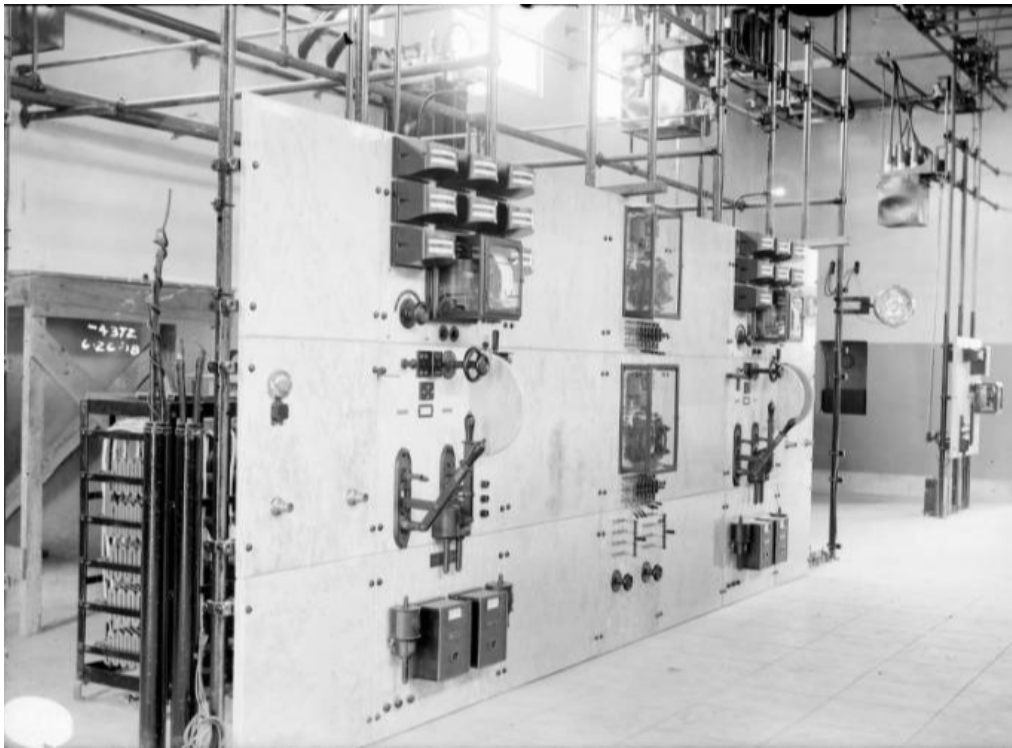


Figure 19: Interior Capistrano Substation, switchboard, June 26, 1918.

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Figure 20: Switchroom, January 13, 1919.

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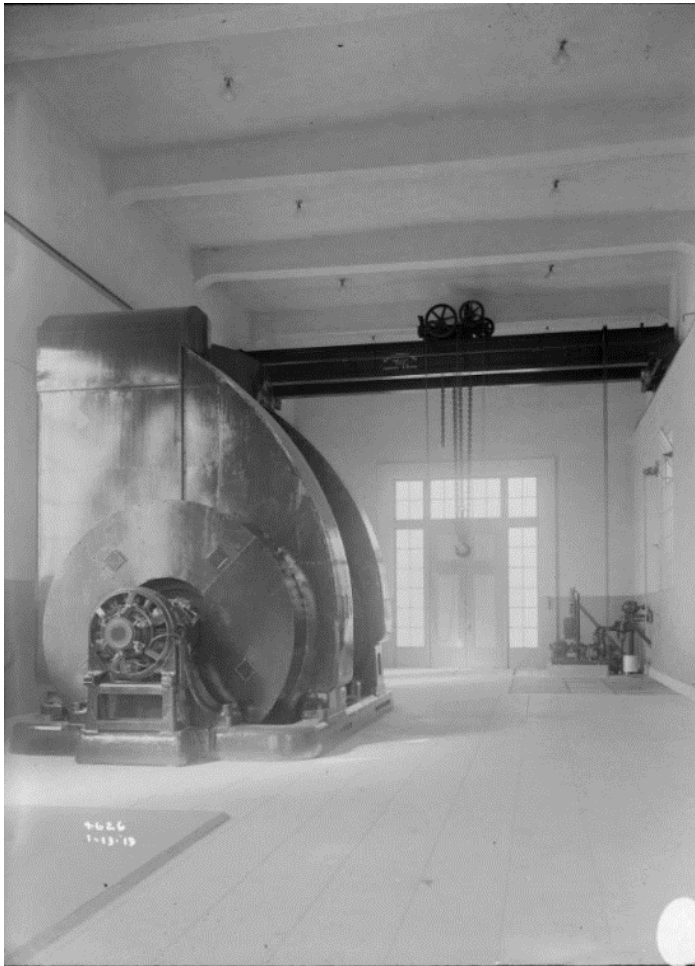


Figure 21: Frequency changer with hoist in background, January 13, 1919.



Figure 22: PG&E Jessie Street Substation, San Francisco, April 22, 1974.

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Figure 23: PG&E Sacramento River Power Station B, Sacramento, 1924.



Figure 24: SCE Vestal Substation, Richgrove, California, 1921.

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Figure 25: SCE Puente Substation, 1913.



Figure 26: SCE Colton Substation, December 20, 1923.