

HOOVER DAM, SOUTHERN CALIFORNIA EDISON NORTH &
SOUTH LINES
(Boulder Dam)
(Boulder Canyon Dam)
U.S. Highway 93
Boulder City vicinity
Clark County
Nevada

HAER NV-27-N
NV-27-N

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN ENGINEERING RECORD
PACIFIC GREAT BASIN SUPPORT OFFICE
National Park Service
U.S. Department of the Interior
1111 Jackson Street
Oakland, CA 94607

HISTORIC AMERICAN ENGINEERING RECORD

HOOVER DAM, SOUTHERN CALIFORNIA EDISON NORTH AND SOUTH LINES

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Location: U.S. Highway 93
Vicinity of Boulder City
Clark County
Nevada

USGS Hoover Dam, Nevada-Arizona 7.5 Minute Provisional 1997
USGS Boulder Beach, Nevada-Arizona 7.5 Minute 1970
UTM Coordinates: SCE North Line: 11.0703405.3987870 (start)
11.0702655.3987953 (end)
SCE South Line: 11.0703410.387851 (start)
11.0702645.3987911 (end)

Date of Construction: 1936-1941

Engineer: Southern California Edison Company

Builder: Southern California Edison Company

Present Owner: Southern California Edison Company

Present Occupant: Not Applicable

Present Use: Transmission line

Significance: In addition to the direct association of these transmission lines to the early operation of Hoover Dam, the lines were extremely important for providing energy to war industries in California during World War II. Electricity carried on these lines helped to power Douglas, Vultee, and Northrup aircraft plants, the Long Beach Naval Shipyard, military bases, and major steel and aluminum production plants. The lines were also important in the post-war agricultural and municipal development in California.

Report Prepared by: Associated Cultural Resource Experts (ACRE)
8341 Sangre de Cristo Road, STE 202
Littleton, CO 80127

Date: April 2004

HISTORIC AMERICAN ENGINEERING RECORD

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Clark County
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UTM Coordinates: SCE North Line: 11.0703405.3987870 (start)
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SCE South Line: 11.0703410.387851 (start)
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Statement of
Significance:

In addition to the direct association of these transmission lines to the early operation of Hoover Dam, the lines were extremely important for providing energy to war industries in California during World War II. Electricity carried on these lines helped to power Douglas, Vultee, and Northrup aircraft plants, the Long Beach Naval Shipyard, military bases, and major steel and aluminum production plants. The lines were also important in the post-war agricultural and municipal development in California.

Description: The Southern California Edison North and South Transmission Lines are 230-kv transmission lines that extend from the Southern California Edison 230-kv Switchyard at Hoover Dam to Chino, California. The documented segments of these transmission lines originate at the Southern California Edison (SCE) 230-kv Switchyard near the Nevada rim of Black Canyon, in Section 29, T22S-R65E. The documented segments extend westward to the west section line of Section 29, T22S-R65E. Each segment includes four single-circuit, suspension type steel towers.

The lines have identical lattice-steel, wedge A-frame, and metal-waisted towers. Towers are 27' square at base and up to 125' high. Towers consist of a square leg segment up to 25' high, a square vertical panel 25' high, a standard battered segment either 50' or 60' high, a bridge or cross member 5' high and 50' long, and ground wire extensions 20' high. Towers vary in height and intervening distance to accommodate topography and cultural features crossed by the transmission line.

History: Southern California Edison (SCE) began constructing the SCE North or Hoover-Chino No. 1 transmission line from Chino, California to Hoover Dam in 1936. The 220-kv line was completed in May 1939, to the SCE switchyard on the south side of Black Canyon Highway (current U.S. Highway 93). Hoover Dam power plant generating units A-6 and A-7 were nearing completion at that time, and SCE began delivering power over the line on June 19, 1939. In response to anticipated growth in demand, SCE began construction of a second line before the first line was energized. The second 220-kv line (SCE South Line or Hoover-Chino No. 2) was completed in November 1941, but transformer circuit No. 10 and the switchyard addition to serve the new line were not completed until near the end of 1942. The Hoover-Chino No. 2 line may have been energized from the same switchyard system as the No. 1 line as early as November 1941, and the No. 2 line was energized from the expanded switchyard facilities by early 1943.

These two transmission lines were constructed with metal-wedge, A-frame and metal-waisted towers very similar to towers the Southern California Edison (SCE) Company had previously used in innovative, high-voltage transmission lines in California (this basic design was also used for towers on the Metropolitan Water District transmission lines from Hoover Dam). The two SCE

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transmission lines take different courses from the SCE 230-kv Switchyard at Hoover Dam to Hemenway Wash, but the lines then run parallel and near each other to the north of Boulder City and then to the southwest toward Chino, California. The two transmission lines remain virtually unchanged in the vicinity of Hoover Dam and Boulder City, except for replacement of conductors and installation of bird guards and vibration dampeners. A segment of the South line was relocated near the Hacienda Hotel/Casino about 1989, about three miles west of Hoover Dam, including removal or relocation of at least two towers and construction of at least two additional towers. The SCE lines were tied to Mead Substation, south of Boulder City, in the early 1970s by means of tie lines constructed to the west of the substation.

Sources:

This documentation of features of Hoover Dam and associated structures was accomplished by Associated Cultural Resource Experts (ACRE). ACRE completed documentation of 21 features in October 2002. Documentation on four linear features was extended and an additional 3 features were newly documented in February 2004. Both phases of documentation were conducted as part of the historical/engineering recordation of Hoover Dam—prepared for the Department of Energy, Western Area Power Administration; Bureau of Reclamation; and Federal Highway Administration—that includes a narrative for the Addendum to Hoover Dam and individual documentation of 25 features located at the Hoover Dam facility, photo documentation, and documentation of existing historic photographs and site plans. The recordation conforms to the standards of the Historic American Engineering Record, U.S. Department of the Interior. Other reports in the HAER collection completed for these projects are a narrative for the Addendum to Hoover Dam (NV-27) and 24 short forms for individual structures: Hoover Dam, Los Angeles Switchyard (NV-27-A); Hoover Dam, Southern Sierras/CEP/Southern California Edison 138-kV Switchyard (NV-27-B); Hoover Dam, Metropolitan Water District Switchyard (NV-27-C); Hoover Dam, State of Nevada Switchyard (NV-27-D); Hoover Dam, Southern California Edison 230-kV Switchyard (NV-27-E); Hoover Dam, Arizona-Nevada Switchyard (NV-27-F); Hoover Dam, Static Towers and Lines (NV-27-G); Hoover Dam, Los Angeles Relay Control Building (NV-27-H); Hoover Dam, Switchyard Fire House (NV-27-I); Hoover Dam, Promontory Water Tank (NV-27-J); Hoover Dam, Control Cable Hoist House (NV-27-K); Hoover Dam, Transformer Circuits 1-15 (NV-27-L); Hoover Dam, Los Angeles BPL Lines 1-3 (NV-27-M); Hoover Dam, Southern California Edison North and South Lines (NV-27-N); Hoover Dam, Hoover-Basic Magnesium North and South Lines (NV-27-O); Hoover Dam, Metropolitan Water District Line 1 (NV-27-P); Hoover Dam, United States Construction Railroad (NV-27-Q); Hoover Dam, U.S. Highway 93 Nevada Segment (NV-27-R); Hoover Dam, Lower Portal Access Road (NV-27-S); Hoover Dam, Kingman Switchyard (NV-27-T); Hoover Dam, U.S. Highway 93 Arizona Segment (NV-27-U); Hoover Dam, Explosives Magazines (NV-27-V); Hoover Dam, Nevada Downstream Waste Tailings (NV-27-W); and Hoover Dam, Nevada Spoils Tunnel (NV-27-X); Hoover Dam, Henderson-Mead Transmission Line 2 (NV-27-Y).

Project
Information:

This documentation was prepared for three federal agencies: U.S. Department of Transportation, Federal Highway Administration (FHWA), Central Federal Lands Highway Division, Lakewood, CO; U.S. Department of Energy, Western Area Power Administration (Western), Desert Southwest Customer Support Region, Phoenix, AZ; and U.S. Department of Interior, Bureau of Reclamation (Reclamation), Lower Colorado Region, Boulder City, NV.

This documentation records certain transportation and electrical features associated with Hoover Dam before planned removal or alteration of some structures. FHWA plans to construct a bridge over the Black Canyon of the Colorado River about 1,500' downstream from Hoover Dam. The Hoover Dam Bypass Project would include realignment of U.S. Highway 93 on the Nevada and Arizona sides of Black Canyon. The project would include demolition, relocation, or substantial visual impact to a segment of U.S. Highway 93 on the Nevada approach to Hoover Dam, a segment of a former alignment of U.S. Highway 93 in Arizona, electrical transformer circuits in

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Arizona and Nevada, two electrical switchyards, a segment of the grade of the U.S. Construction Railroad, a stone gate structure for a dam construction and operations road, and six historic transmission lines. This documentation also records certain structures not directly affected by FHWA's Hoover Dam Bypass Project. Electrical transmission facilities at Hoover Dam are administered by Western, but these facilities are within a federal reservation administered by Reclamation. Documentation of electrical structures is intended to partially fulfill responsibilities of Western and Reclamation under Section 110 of the National Historic Preservation Act (As amended). Some electrical structures addressed by Western and Reclamation would be directly affected by FHWA's Hoover Dam Bypass Project, and all structures addressed by Western and Reclamation are functionally related and geographically near structures addressed by FHWA.

Project Manager and historian for the recordation was Kurt P. Schweigert of Associated Cultural Resource Experts. The photographers were Deborah Dobson-Brown and Douglas M. Edwards of Associated Cultural Resource Experts. This documentation was prepared on the basis of research conducted at Reclamation archives in Denver, CO, and Boulder City, NV; Western archives and files in Denver and Phoenix, AZ; the National Archives and Records Administration in Denver; libraries of the University of Nevada-Las Vegas; and the Western History Collection of the Denver Public Library. This documentation includes information contained in survey reports for the Hoover Dam Bypass Project Environmental Impact Statement, an evaluation of the Western switchyards at Hoover Dam, an evaluation of the Hoover Dam construction railroads, a National Register nomination for Hoover Dam, and other documents.

Historian:

Kurt P. Schweigert, Associated Cultural Resource Experts, 2004.

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