3.5 Cultural Resources and Native American Values

This section contains a description of the environmental setting, regulatory setting, and potential impacts associated with the construction and operation of the proposed project and alternatives with respect to cultural resources. This section includes background data compiled from cultural resources records searches conducted at the San Bernardino County Archaeological Information Center, located at the San Bernardino County Museum in Redlands, California; the Harry Reid Center for Environmental Studies at the University of Nevada, Las Vegas; and online with the Nevada Cultural Resources Information System. Additional data included in this section was acquired from an intensive cultural resources field survey of the project area following the records searches. A full report of the cultural resources findings for this project is documented in *A Class III Cultural Resources Inventory Southern California Edison Eldorado – Ivanpah Transmission Project San Bernardino County, California and Clark County, Nevada* (Chambers Group 2009).

3.5.1 Environmental Setting

The environmental setting section characterizes the terrain and resources immediately surrounding the right-of-way (ROW) of the project, including data from the nearby surrounding landforms, since they may influence the nature and quantity of cultural resources in the area. A more expansive description of the cultural setting is provided, since cultural resources occur intermittently throughout time and space.

3.5.1.1 Physiography and Geology of Proposed Route and All Alternatives

The EITP is in southern Nevada and southeastern California in the Mojave Desert geologic province of the Great Basin. This linear project passes through the Eldorado Valley, McCullough Mountains, Jean Valley, Ivanpah Valley, and Clark Mountains. The proposed route skirts the eastern edge of Roach Dry Lake and passes through the northern portion of Ivanpah Dry Lake. The Mountain Pass and Golf Course alternatives for the Telecommunication Route are located south of the proposed transmission line route. These alternatives pass through Eldorado Valley between the McCullough and Highland mountain ranges, through Big Tiger Wash between the McCullough and New York ranges, through Ivanpah Valley transecting the southern edge of Ivanpah Dry Lake, and through Mountain Pass near Wheaton Springs.

The geology of the project area consists of alluvial deposits in the valleys and bedrock in the mountains. The alluvial deposits were deposited during the Holocene (which began 11,000 years ago), whereas stream deposits date to the early to late Pleistocene (1.8 million to 11,000 years ago). The bedrock is volcanic rock, primarily basalt. Some of the alluvial fan surfaces exhibit poorly to moderately well developed desert pavement with desert varnish. Recent research displaced an earlier view that desert pavements formed in an erosional environment, finding instead that the "… desert pavement surface is a single layer of clasts borne upward on an ever-accreting layer of eolian silt" (Hill 2008). This new view of desert pavement led to testing that yielded artifacts to a depth of 2.6 feet below the surface throughout the column of cobble-free eolian silt that typically makes up the substrate of desert pavements. It was concluded from this testing that artifacts worked into an older desert pavement can predict subsurface archaeological deposits, and that the occupation surface of a site on a terminal Pleistocene or early Holocene alluvial fan is likely to be several feet below the current pavement (CH2M Hill and Carrier 2008).

The alluvial deposits can be more than 80 inches deep in portions of the project area and could have buried cultural resources within them (SCE 2009).

3.5.1.2 Cultural History

This section describes human occupation of the general project area over the Prehistoric, Protohistoric or Ethnographic, and Historic periods. The division between Historic and Prehistoric time is marked by the keeping of

written records. The Protohistoric period occurred before European settlement in the area; however, the Native American culture was influenced in the Protohistoric period by European culture through intertribal trade networks.

Prehistoric

The Prehistoric period encompasses the time of the first peopling of the Americas until the arrival of the first Europeans who began keeping written records of the area. The Prehistoric period is subdivided into the Paleo-Indian, Archaic, and Late Prehistoric eras. The Paleo-Indian occupation (12,000 to 10,000 calibrated years before the present [cal BP]) is thought to have occurred throughout North America and represents the first influx of people into the Mojave during the end of the last ice age. Several sites throughout the Americas have hinted at an earlier human occupation of the continents; however, no sites found in the Mojave can be attributed to pre-Clovis (a culture that first appeared 11,500 radiocarbon years cal BP). There are arguments for an even earlier occupation; however, chronological indicators for these sites are disputed.

The Paleo-Indian occupation in the Mojave Desert is poorly represented by artifacts, or at least has been poorly documented to date (Sutton 1996). Fluted Clovis points are the main diagnostic artifact representing this period, and they have been found in the region; however, such finds have generally been isolated surface finds (Sutton et al. 2007). The dearth of Paleo-Indian sites and diagnostics may be more a function of sample bias than of actual absence. To date, the archaeological community has not searched beneath the surface of desert pavement surfaces for older occupations. Research into the age of desert pavements and the potential for subsurface cultural resources may lead to significant discoveries about the Paleo-Indian presence in the Mojave Desert.

The Archaic period coincides with the early and middle Holocene epoch, a time when the climate was cooler and moister than currently. The Lake Mojave, Pinto, Deadman Lake, and Gypsum groups of artifacts (complexes) represent different shifts in technology and subsistence methods throughout the Archaic period. The Lake Mojave complex (10,000 to 8,000 cal BP), characterized by Great Basin stemmed series projectile points such as Lake Mojave and Silver Lake points, is the earliest complex represented during the Holocene. Chronologic indicators are uncommon for this complex, as many of the sites have been surface finds. Lake Mojave is well represented at Fort Irwin, China Lake, and Twentynine Palms. Lake Mojave complex sites offer evidence of long-distance trade networks to the coast and a wide foraging base for lithic raw materials (Sutton et al. 2007).

The Pinto complex (8,000 to 5,000 cal BP) is thought to have begun in the early Holocene, overlapping with the end of the Lake Mojave complex. Sites with artifacts diagnostic to the Pinto complex are widespread and well represented in the Mojave Desert. Diagnostic artifacts from this complex include Pinto series projectile points and a marked increase in the use of groundstone implements, indicating a substantial shift to a greater emphasis on plant resources. Trade with coastal communities continued during this time, as evidenced by the presence of olivella shell beads (Sutton et al. 2007).

The Gypsum complex (4,000 to 1,800 cal BP) is defined by the presence of Elko, Humboldt, and Gypsum series projectile points. The material culture from Gypsum complex assemblages implies increased trade activities and an increase in social complexity. Quartz crystals, paint, and rock art panels are commonly attributed to Gypsum components (Sutton et al. 2007).

The onset of the Late Prehistoric is demarcated from the Archaic by the introduction of the bow and arrow and the phasing out of *atlatl* (spear thrower) technology. The Rose Spring complex (1,800 to 900 cal BP) coincides with a time of increased rainfall in at least some parts of the Mojave Desert. An increase in population, the presence of Eastgate and Rose Spring series projectile points, well developed midden remains, and a marked shift in material culture are all hallmarks of the Rose Spring complex. Sites attributed to this complex are commonly found near springs and along washes and lakeshores (Sutton et al. 2007). The Rose Spring complex is sometimes discussed along with the above-described Archaic complexes; however, the use of bow and arrow technology during the time tools in this complex were used makes it more suitable to be discussed in the Late Prehistoric period.

In the post-Rose Spring complex time there appears to have been a decrease in population and the onset of a dryer, warmer climate. The habitation pattern from this era includes habitation sites with associated cemeteries surrounded by special-purpose and seasonal sites. Desert series projectile points, such as Cottonwood and Desert side-notched, and the introduction of ceramics, steatite beads, and slate pendants are hallmarks of this era. The Late Prehistoric era is not well understood in the Eastern Mojave due to a lack of both fieldwork and research (Sutton et al. 2007).

Protohistoric and Ethnographic

The Southern Paiute have been the recorded occupiers of the project area since the Protohistoric period. They are defined as a hunter-gatherer foraging culture and are particularly known for their skilled manufacture of baskets, brownware pottery, and sketched and engraved petroglyphs in the southern Great Basin. The Southern Paiute are subdivided into the Chemehuevi, Las Vegas, Moapa, Pahranagat, Gunlock, Saint George, Shivwits, Uinkaret, Cedar, Beaver, Panguitch, Kaibab, Kaiparowits, Antarianunts, and San Juan.

The habitation pattern of the Southern Paiute was largely based on the seasons, to take advantage of seasonal food resources. Winters were generally spent at higher elevations, and summers were spent in the lowland areas. The Chemehuevi lived in earth-covered dwellings and relied heavily on agave, pine nuts, other seeds, and small and large game for subsistence (Sander et al. 2009).

Historic

Francisco Garces, Francisco Atanasio Dominguez, and Silvestre Velez de Escalante were the first documented Europeans to come into contact with the Paiute, in 1776. Colonization of the Paiutes did not commence until 1810, when Spanish settlers along the upper Rio Grande began baptizing the natives. By the 1830s, the Paiute were being traded as slaves along the Old Spanish Trail. The Paiute slave trade came to an end in the 1850s due in large part to the influence of Mormon expansion into Nevada and Utah. In the 1860s the American government began resettling the Southern Paiutes onto reservations (Sander et al. 2009).

The Old Spanish Trail was established as an overland supply route from New Mexico to California. The trail passes through the southern tip of Nevada. Other than the trail, the Spanish did not have an economic interest in southern Nevada. The Goodsprings (Yellow Pine, Petosi) mining district in the Spring Mountains north of Clark Mountain was consistent from 1893 to 1905 when completion of the San Pedro, Los Angeles, and Salt Lake Railroad (SPLA&SL) stimulated increased mining development and the district became a principal source of zinc with peak production during World War 1 (Longwell et al. 1965). Mining drew many into the southern portion of the state long before the Hoover Dam was proposed. In addition to mining, the completion of the SPLA&SL in 1905 created a land boom in Las Vegas (Longwell et al. 1965). The construction of the Hoover Dam began in 1931 and was completed in 1936. The Boulder (Hoover) Dam transmission line was constructed from 1930 to 1931 over eight months. The dam required electricity, which came from 226 miles away in San Bernardino, California, through the first transmission lines in the area. Once the dam was constructed, the flow of electricity was reversed to provide hydroelectric power to the Los Angeles area. The line is still in use and is currently owned by Southern California Edison (Sander et al. 2009).

The project area crosses the boundary between California and Nevada. The first official border between the two states was established by Allexy W. Von Schmidt, a U.S. astronomer and surveyor, in 1873. Von Schmidt used solar observations to approximate the dividing line between the two states, which resulted in an error in the placement of the line by three quarters of a mile to the south of where it was supposed to be. Von Schmidt had marked the boundary with cast-iron columns and thus the line can still be seen today. The Von Schmidt line has been designated as a California Registered Historical Landmark (No. 859; Sander et al. 2009).

The San Pedro, Los Angeles, and Salt Lake Railroad Company constructed a railway line from Salt Lake City to San Pedro, California. This line crosses the current project area. The line was purchased by Union Pacific in 1921 and is still operated by that company (Sander et al. 2009).

The mountains in the project area offered mineral resources that were desirable for early miners. Gold, copper, silver, and lead were available in the region. While the records search did not yield data pertaining to mining inside the project area, closed mines are located about 1,000 feet outside both sides of the proposed and alternative EITP routes (Appendix F-1). The first mine in the area was established in 1869 in the Clark Mountains. Ivanpah Spring became the supply center to service the mine, and mills were built at Ivanpah by the mid-1870s. In 1898, the Copper World Mine was developed at Rosalie Wells. The mine was in operation until World War I. Mountain Pass was the site of gold and silver finds in 1879. The Mescal Mine was developed in 1882 and was active until 1887. Gold was discovered near Vanderbilt Spring in the New York Mountains in 1891. By 1892, there had been major development of the Gold Bronze and Boomerang mines (Fergusson 2007). It is likely that associated cultural resources such as trails, campsites, and other features associated with mining were in the general project area and may prove to be National Register of Historic Places (NRHP)-eligible resources.

The town of Nipton is a historic community located at the intersection of two wagon trails. One of the trails runs east–west from Colorado to the Ivanpah Mine; the other runs north–south from Goodsprings to the railroad and mining settlement, Goffs, near present-day Needles. A Pennsylvania man, Samuel Dunc Karns, staked a mining claim in the area in 1900 that he called Nippeno. The town's name was derived from the name of the mine. Rail lines were routed through the crossroads at the town as part of the San Pedro, Los Angeles, and Salt Lake Railroad Company line in 1905, which continued in operation until the 1950s.

Gambling was legalized in Nevada in the 1930s. This helped shape the state's economy and increase the population, as did the military's establishment of Nellis Air Force Base, Fallon Naval Air Station, and an army base at Tonopah. During Prohibition (1920 to 1933), a man local to the project area, Pete McIntyre, began a lucrative bootlegging operation. "Whiskey Pete," as he came to be known, owned a local gas station and produced moonshine in local mountain caverns. Pete's property was purchased in the 1950s by Ernie Primm, who developed a casino on the property (Sander et al. 2009).

3.5.1.3 Cultural Sites

The survey of the EITP proposed route resulted in the discovery or re-recording of cultural resources along the EITP proposed route, telecommunications route, and alternative routes. These resources are described below. No previously recorded or newly discovered cultural resources were located during the background research or field survey of the Ivanpah Substation site.

Eldorado–Ivanpah Transmission Line Route

Cultural Resource 36-1910 (CA-SBR-1910H)/26CK5685 is the historic Union Pacific Railroad constructed from 1903 to 1904. The site has retained its physical location and overall attributes as a linear transportation system. It was determined by the Harry Reid Center for Environmental Studies at the University of Nevada to be a significant linear structure and is eligible for the NRHP under Criteria A and D (see Section 3.5.3, "Impact Analysis.") It is listed as a significant frontier railroad with urban industrial centers at either terminus. The railroad connected mining communities, homesteads, and numerous towns along its path between Barstow and Salt Lake City. This line aided in furthering western expansion and the exploration and settlement of the southwestern region of the United States. The rail line is also associated with Senator William A. Clark of Montana, who became famous and wealthy from his mining ventures in Montana. He invested in the completion of the railroad and furthered his empire in mining and exploration in the Eastern Mojave and Nevada deserts.

Although this site as a whole is eligible for listing in the NRHP, the short sections of the railroad line located within the project corridor are not recommended as contributing elements of the structure. Regular maintenance and upgrades to the gravel track bed, rails and ties, and Nipton Road have replaced the original historic materials and only the original path of the railroad remains.

Cultural Resource 36-7694 (CA-SBR-7694H)/26CK4957 is the Los Angeles Department of Water and Power (LADWP) Boulder Transmission Line (lines 1, 2, and 3). The lines were built between 1933 and 1940 and were determined eligible for the NRHP in 1994. This site is eligible for listing on the NRHP under Criterion A and C and has elements that contribute to the significance of the resource within the EITP project area. At this point, the applicant intends to span over the LADWP Transmission Line using H-frame towers.

Cultural Resource 36-10315 (CA-SBR-10315H)/53-8280 is the Boulder Dam–San Bernardino 132-kV transmission line. This line was built in the early 1930s and was first recorded as a potential cultural resource in 1988. This resource has been determined eligible for the NRHP under Criteria A and C due to its association with the construction of Boulder (Hoover) Dam and expansion of the dam into California. The Proponent's Environmental Assessment indicates that towers from this line would be removed and replaced with new towers to accommodate the existing and new transmission capacity.

Cultural Resource 36-6835 (CA-SBR-6835H) is the Von Schmidt survey line demarcated in 1873 during the original survey of the boundary between California and Nevada. Located approximately 0.75 miles west of the actual state line, the Von Schmidt line was established in the wrong place due to a surveying error. Its only physical presence is a line of cast iron markers. The site is listed as California Historical Landmark No. 859 and Nevada State Historic Marker No. 196. Cultural Resource 36-6835 has been found eligible for the California Register of Historical Resources (CRHR). It has not yet been evaluated for the NRHP, but it would likely be found eligible.

Cultural Resource 36-7689 (CA-SBR-7689H) is the Arrowhead Trail highway. The highway was constructed as a through route between Los Angeles and Salt Lake City via Las Vegas. This site has been determined not eligible for listing on the NRHP.

Cultural Resource 36-13416 (CA-SBR-12574H) is the remains of a telegraph line that served as a communications system for the Boulder Dam Transmission Line. The line itself and telegraph poles have been removed from the site. The site is, therefore, lacking integrity and is recommended not eligible for the NRHP.

Cultural Resource 36-13417 (CA-SBR-12575H) is an unnamed two-track road running east to west that appears to be a route from Yates Well to Ivanpah Springs. The site does not meet the criteria for listing on the NRHP.

Cultural Resource 26CK2633 is a prehistoric lithic scatter that contained debitage, one projectile point, and two biface fragments. The area surrounding the site is characterized by desert pavement, but without any desert varnish development. This site has not been evaluated for NRHP eligibility.

Cultural Resource 26CK3023 is a small east-facing natural rock shelter in the McCullough Range. Metate fragments, potsherds and chert flakes, and a single petroglyph were recorded on the original Intermountain Archaeological Computer System (IMACS) record form. Subsequent visits to the site yielded a basalt chopper and two additional flakes. This site has been determined not eligible for listing on the NRHP.

Telecommunications Line

Cultural Resource 36-014987 (CA-SBR-1312H) is a historic trash scatter containing at least 200 beer cans, a few oil cans, an air filter for a vehicle or machine, and at least five broken bottles in a 30-square-meter area. The cans have all been opened using a church-key-style can opener. The maker's marks on the bottles indicate that they were manufactured in between the 1930s and 1950s. This site does not appear eligible for listing in the NRHP; however, a formal NRHP evaluation of site would be conducted if the Mountain Pass alternative is chosen for construction.

Cultural Resource 36-014988 (CA-SBR-13133H) is a historic trash mound measuring 4 by 2 meters. The deposit includes charcoal, cinders, rock debris, modern glass, ceramics, and metal fragments as well as sun-colored amethyst glass fragments. The site has been disturbed by relic hunters and is a dump of domestic refuse that likely originated in the nearby community of Nipton. The site is recommended as not eligible for the NRHP.

Transmission Alternative Route C

Cultural Resource 36-7689 (CA-SBR-7689H) is a segment of the Arrowhead Trail Highway (State Route 31). This historic road connects Los Angeles and Salt Lake City via Las Vegas. The road alignment that passes through the project area contains the road and an associated scatter of historic refuse, prehistoric artifacts, a corrugated metal pipe, and a brass cap surveyor's monument. This site has been determined to be not eligible for listing in the NRHP.

Cultural Resource 26CK4135 is the location of a now-demolished historic structure constructed of a late-dating adobe and cement aggregate compound. The adobe remains are degraded and visible on the ground surface. Material debris is found throughout the immediate area, though it is difficult to determine whether debris is associated with the structure or with more recent episodes of trash dumping. The site was determined not eligible for the NRHP.

Cultural Resource 36-7694 (CA-SBR-7694H)/26CK4957 is the LADWP Boulder Transmission Line (lines 1, 2, and 3). A full description of the resource can be found under the cultural resource listings for the Eldorado–Ivanpah Transmission Line Route above. The line was determined eligible for the NRHP under Criterion A in 1994.

Transmission Alternative Route D

36-13416 (CA-SBR-12574H) is the remnants of a telegraph pole line and associated dirt road. The ROW is still intact; however, the telegraph line has been removed and many of the poles have been cut down to stumps. This site has the same alignment as the Boulder Transmission Line (36-10315 [CA-SBR-10315H]) and is associated with that line. It has been recommended not eligible for listing on the NRHP.

Telecommunication Alternative (Golf Course)

36-3048 (CA-SBR-3048H) is Old Traction Road and an associated refuse scatter. The road is in poor condition in some places, with deep ruts created by rain water flowing toward the lower elevation of Ivanpah Lake; however, the road bed is still in place and clearly visible. Old Traction Road is recommended as eligible for listing in the NRHP under Criterion A for its association with the broad pattern of transportation modes dating from the early 1900s. The portions of Old Traction Road that may be affected by the EITP development are not recommended as contributing elements of the resource. Regular maintenance and upgrades to the road bed, shoulder, and Nipton Road have replaced the original historic materials and only the original path of Old Traction Road remains.

36-7802 (CA-SBR-7802H) is a historic roadside scatter of household refuse dominated by evaporated milk cans or food cans that were discarded in the early 1900s. This site has been recommended not eligible for the NRHP due to disturbances associated with road maintenance, and the site testing results from the EITP investigations support this recommendation.

36-014496 (CA-SBR-12980H) is Nipton Road. The road was originally a dirt track established as a wagon trail connecting the mines east and west of Nipton to the railroad stations in Ivanpah Valley. The Copper World Mine used the road to bring raw materials to the Ivanpah Station to be loaded onto railcars for transport. The road was also used by gold miners in Searchlight, Nevada, to send goods to Ivanpah Station. Although this road was significant to the development of the area, historic mining operations, and railroad themes, its improved state as a modern paved road degrades its historic integrity, and no sign of the original wagon trail remains. The roadway is recommended as not eligible for listing on the NRHP.

36-1910 (CA-SBR-1910H)/26CK5685 is the historic Union Pacific Railroad. The railroad was constructed from 1903 to 1904 and has retained its physical location and overall attributes as a linear transportation system. The site was evaluated by the Harry Reid Center for Environmental Studies at the University of Nevada to be a significant linear structure and is eligible for listing in the NRHP. It is listed as a significant frontier railroad with two urban industrial centers at either terminus. The railroad connected mining communities, homesteads, and numerous towns along its path between Barstow and Salt Lake City. This line helped further western expansion and the exploration and

settlement of the southwestern region of the United States. The rail line is also associated with Senator William A. Clark of Montana, who became famous and wealthy due to his mining ventures in Montana. He invested in the completion of the railroad and furthered his empire in mining and exploration in the Eastern Mojave and Nevada deserts. This resource is eligible for the NRHP under Criteria A and D. However, the short sections of the railroad line located within the project corridor are not recommended as contributing elements of the structure. Regular maintenance and upgrades to the gravel track bed, rails and ties, and Nipton Road have replaced the original historic materials, and only the original path of the railroad remains.

Telecommunication Alternative (Mountain Pass)

36-7347 (CA-SBR-7347H) is a historic dirt road that crosses the transmission line from east to west. This site has not yet been determined ineligible for the NRHP.

36-014497 (CA-SBR-12981H) is a historic trash scatter within a drainage situated between a dirt road and I-15. Approximately 75 cans of various types were found, including coffee, beer, soda, and juice cans. Bottles showed maker's marks dating to the late 1940s and early 1950s. The site is likely associated with the nearby sand and gravel borrow pit. It is heavily disturbed by erosion and off-road driving, and subsurface deposits were not found during testing of the site. The site is likely a part of 36-014498. It has been recommended not eligible for the NRHP.

36-014498 (CA-SBR-12982H) consists of a large historic debris scatter located within a drainage area between a dirt road and I-15. The site contains a large scatter of historic cans, including food cans, motor oil cans, beer cans, soda cans, and evaporated milk cans. Bottles with visible maker's marks dating to the 1940s and 1950s were observed. The site is likely associated with the nearby sand and gravel borrow pit. The site is heavily disturbed by erosion and off-road driving, and subsurface deposits were not found during testing of the site. The site is likely a continuation of site 36-014497 (CA-SBR-12981H). It has been recommended not eligible for the NRHP.

3.5.1.4 Tribal Consultation

The BLM initiated consultation with Native American tribes and groups that may have knowledge of the cultural resources of the proposed project area. Twenty-three contacts from the following 11 Native American groups were given notice of the proposed project as the first step in the consultation process:

- Chemehuevi Indian Tribe;
- Colorado River Indian Tribes;
- Fort Mojave Tribal Council;
- Las Vegas Paiute Tribe;
- Moapa Band of Paiute Indians;
- Morongo Band of Mission Indians;
- Pahrump Paiute Tribe;
- San Manuel Band of Mission Indians;
- Serrano Nation of Indians;
- Timbisha Shoshone; and
- Twenty-Nine Palms Band of Mission Indians.

A search of the Native American Heritage Commission's Sacred Lands File (SLF) was conducted to determine the any known Native American cultural resources in the proposed project area. The SLF search failed to indicate the presence of any Native American cultural resources in the proposed project area. As of the date of this document, tribal consultation did not result in the identification of cultural resources or historic properties to which the tribes attach religious or cultural significance within the proposed project area.

3.5.2 Applicable Laws, Regulations, and Standards

The following section summarizes federal, state, and local laws, regulations, and standards that govern cultural resources in the project area.

3.5.2.1 Federal

Code of Federal Regulations (CFR), Title 36 Section 800

This statute protects historic properties and pertains to implementation of the regulations of Section 106 of the National Historic Preservation Act (NHPA). Section 106 requires federal agencies to take into account the effects of a proposed action on historic properties.

National Environmental Policy Act: U.S. Code (USC), Title 42 Sections 4321 et seq.

This statute requires federal agencies to consider potential environmental impacts of projects with federal involvement and to consider appropriate mitigation measures.

Federal Land Policy and Management Act: 43 USC Sections 1701 et seq.

This statute requires the Secretary of the Interior to retain and maintain public lands in a manner that will protect the quality of scientific, scenic, historic, ecological, environmental, and air and atmospheric water resources, as well as archaeological values.

Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation (Federal Register V.48 N. 190 Part IV p. 44738-44739)

This statute is a set of standards and guidelines for archaeologic and historic preservation. They are considered the appropriate professional methods and techniques for the preservation of archaeological and historic properties and are used by all federal agencies. The California Office of Historic Preservation and the Nevada State Historic Preservation Office refer to these standards in their requirements for selection of qualified personnel and in the mitigation of potential impacts on cultural resources on public lands in California.

Native American Graves Protection and Repatriation Act (1990): 25 USC Sections 3001 et seq.

This statute requires all federal agencies and museums receiving federal funds to inventory their collections, notify appropriate parties of sensitive collections, acknowledge requests from native groups for repatriation, review the collections and the requests, and, if appropriate, repatriate human remains, grave associations, sacred objects, and items of cultural patrimony to affiliated tribes or individuals. It establishes that Native American human remains legally belong to the nearest affiliated Indian tribe or family of known individuals, rather than with the owner of the land on which they were found. This statute also requires that archaeologists consult with land management officials prior to conducting field work on federal land or in a federal undertaking.

Executive Order 11593, May 13, 1971 (36 CFR 8921)

This order mandates the protection and enhancement of the cultural environment through providing leadership, establishing state offices of historic preservation, and developing criteria for assessing resource values.

American Indian Religious Freedom Act: Title 42, USC Section 1996

This statute protects Native American religious practices, ethnic heritage sites, and land uses.

U.S. Department of the Interior, Bureau of Land Management, the California Desert Conservation Area Plan 1980 as amended – Cultural Resources Element Goals

This plan establishes BLM goals to increase archaeological and historical knowledge of the California Desert Conservation Area (CDCA) through continuing efforts and use of existing data. It also establishes goals to identify the full array of cultural resources within the CDCA, preserve and protect a representative sample of the full array of the CDCA's cultural resources, ensure that cultural resources are given full consideration in land use planning and management decisions and that BLM-authorized actions avoid inadvertent impacts, and ensure proper data recovery of significant cultural resources where adverse impacts cannot be avoided.

Archaeological Resources Protection Act (ARPA) of 1979, Public Law 96-95; 16 USC 470aa-mm)

ARPA prohibits the excavation or removal of an archaeological resource from federal or traditional Native American lands without a permit from the appropriate land management agency. Under ARPA, the sale, purchase, exchange, transport, or possession of an archaeological resource removed without permission of the land management agency is forbidden. Violators convicted of violation of ARPA are subject to fine and imprisonment.

3.5.2.2 State

California

Public Resources Code (PRC) Sections

5020–5024. These sections are statutes that pertain to the protection of historical resources.

5097.98 (b) and (e). These sections requires a landowner on whose property Native American human remains are found to limit further development activity in the vicinity until conferring with the most likely descendants (as identified by the Native American Heritage Commission) to consider treatment options.

5097.91–5097.991. These sections pertain to the establishment and authorities of the Native American Heritage Commission (NAHC). Sections 5097.91–5097.991 also prohibit the acquisition or possession of Native American artifacts or human remains taken from a Native American grave or cairn except in accordance with an agreement reached with the NAHC, and provide for Native American remains and associated grave artifacts to be repatriated.

5097.993–5097.994. These sections establishes the Native American Historic Resource Protection Act which makes it a misdemeanor crime for the unlawful and malicious excavation, removal, or destruction of Native American archaeological or historical sites on public or private lands.

6254 (r). This section established the California Public Records Act which protects Native American graves, cemeteries, and sacred places maintained by the Native American Heritage Commission by protecting records of such resources from public disclosure.

21083.2. This section of the California Environmental Quality Act (CEQA) provides for protection of archaeological resources by directing the lead agency on any project undertaken, assisted, or permitted by the state to include in its environmental impact report for the project a determination of the project's effect on unique archaeological resources. It enables a lead agency to require an applicant to make reasonable efforts to preserve or mitigate impacts to any affected unique archaeological resource, and sets requirements for the applicant to provide payment to cover the costs of mitigation.

21084.1. This section of CEQA establishes that an adverse effect on a historical resource qualifies as a significant effect on the environment.

25373, 37361. These sections allows city and county legislative bodies to acquire property for the preservation or development of a historic landmark. It allows local legislative bodies to enact ordnances to provide special conditions or regulations for the protection or enhancement of places or objects of special historical or aesthetic interest or value.

65092. This section provides for notice of projects in consideration for construction to be sent to California Native American tribes who are on the contact list maintained by the Native American Heritage Commission.

Health and Safety Code (HSC) Sections

7050 – 7054. These HSC sections are statutes that pertain to disturbance and removal of human remains, felony offenses related to human remains, and depositing human remains outside of a cemetery.

8010–8011. This HSC sections establishes the California Native American Grave Protection and Repatriation Act that is consistent with and facilitates implementation of the federal Native American Graves Protection and Repatriation Act

Senate Concurrent Resolutions

Number 43. This resolution requires all state agencies to cooperate with programs of archaeological survey and excavation, and to preserve known archaeological resources whenever this is reasonable.

Number 87. This resolution provides for the identification and protection of traditional Native American resource-gathering sites on state land.

Administrative Code, Title 14, Section 4307

This code states that no person shall remove, injure, deface, or destroy any object of paleontological, archaeological, or historical interest or value.

California Code of Regulations Section 1427

This code recognizes that California's archaeological resources are endangered by urban development and population growth and by natural forces. It declares that these resources need to be preserved in order to illuminate and increase public knowledge of the historic and prehistoric past of California.

Penal Code Section 622: Destruction of Sites

This code establishes as a misdemeanor the willful injury, disfiguration, defacement, or destruction of any object or thing of archaeological or historical interest or value, whether situated on private or public lands.

Nevada

Nevada Revised Statutes (NRS)

383.150–383.190. This NRS protects Native American graves on private and public land.

451 et seq. This NRS ensures the protection of all human remains on public and private land by establishing penalties of imprisonment, fines, or a combination thereof. The penalties are applicable to both the person who collects the remains and any person who receives or purchases such remains. Section 451.045 establishes a permit obtainable from a local health officer for the disinterment or removal of human remains.

3.5.2.3 Regional and Local

No regional or local ordinances in the project area pertain to cultural resources.

3.5.3 Impact Analysis

This section defines the methodology used to evaluate impacts for cultural resources, including CEQA impact criteria. The definitions are followed by an analysis of each alternative, including a joint CEQA/NEPA analysis of impacts. At the conclusion of the discussion is a NEPA impact summary statement and CEQA impact determinations. For mitigation measures, refer to Section 3.5.4, "Mitigation Measures."

3.5.3.1 NEPA Impact Criteria

The NEPA analysis determines whether direct or indirect effects to cultural resources would result from the project, and explains the significance of those effects in the project area (40 CFR 1502.16). Significance is defined by Council on Environmental Quality regulations and requires consideration of the context and intensity of the change that would be introduced by the project (40 CFR 1508.27). Impacts are to be discussed in proportion to their significance (40 CFR 1502.2[b]). To facilitate comparison of alternatives, the significance of environmental changes is described in terms of the temporal scale, spatial extent, and intensity.

The NEPA analysis considers the overall impact of the project to the resource, including the amount of access/activity where cultural resources are present; the amount/distribution of the ground disturbance at archaeological or historical sites; the extent to which actions alter the setting of cultural resources; the amount, quality, and location of natural resource base used by the tribes, including fish, game, plants, minerals, and springs; and the presence of cultural resource sites, including ethnographic resource and traditional cultural properties.

3.5.3.2 CEQA Impact Criteria

Under CEQA, the proposed project would have a significant impact if it would:

a. cause a substantial adverse change in the significance of a historic resource as defined in Public Resources Code Section 15064.5,

b. cause a substantial adverse change in the significance of a archaeological resource as defined in Public Resources Code Section 15064.5, or

c. disturb any human remains, including those interred outside of formal cemeteries. No quantitative threshold exists.

3.5.3.3 Methodology

Impacts to identified cultural resources were evaluated based on the significance of the site according to data presented in Sander et al. (2009). For Section 106 of the NHPA, determining significance entails determining whether a resource is eligible for listing on the NRHP. The resource is eligible if it meets one of the following four criteria:

Criterion A The resource is associated with events that have made a significant contribution to the broad patterns of American history.

Criterion B The resource is associated with the lives of persons significant in our past.

Criterion C The resource embodies the distinctive characteristic of a type, period, or method of construction; represents the work of a master; possesses high artistic value; or represents a significant or distinguishable entity whose components may lack individual distinction.

Criterion D The resource has yielded or may likely yield information important in prehistory or history.

Under CEQA, the significance of a resource is determined according to California Public Resources Code Section 5024.1 and California Code of Regulations, Title 14 Section 4850 et seq. CEQA criteria for significant resources are given below.

Criterion 1 The resource is associated with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States.

Criterion 2 The resource is associated with the lives of persons important to local, California, or national history.

Criterion 3 The resource embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master or possesses high artistic values.

Criterion 4 The resource has yielded, or may be likely to yield, information important in prehistory or history of the local area, California, or the nation.

Sites that are not considered to be significant resources are not protected and would be deemed to not have any impacts resulting from this project.

3.5.3.4 Applicant Proposed Measures

The applicant has included the following applicant proposed measures (APMs) related to cultural resources:

APM CR-1: Conduct Archaeological Inventory of Areas that May Be Disturbed. Conduct an intensive archaeological inventory of all areas that may be disturbed during construction and operation of the proposed project. A complete cultural resources inventory of the project area has been conducted, details of which are contained in a technical report. Should the project substantially change and areas not previously inventoried for cultural resources become part of the construction plan, the applicant would ensure that such additional areas are inventoried for cultural resources prior to any disturbance. All surveys would be conducted and documented according to applicable laws, regulations, and professional standards.

APM CR-2: Avoid and Minimize Impacts on Significant Cultural Resources Wherever Feasible. Avoid and minimize impacts on significant or potentially significant cultural resources wherever feasible. To the extent practical, the applicant would avoid or minimize impacts on archaeological resources, regardless of its CRHR or NRHP eligibility status. This includes siting all ground-disturbing activities and other project components outside a buffer zone established around each recorded archaeological site within or immediately adjacent to the right-of-way.

APM CR-2a. Avoid Direct Impacts on Significant Cultural Resources through Project Final Design. Project Final Design would avoid direct impacts on significant or potentially significant cultural resources. To the extent practical, all ground-disturbing activities and other project components would be sited to avoid or minimize impacts on cultural resources listed as or potentially eligible for listing as, unique archaeological sites, historical resources, or historic properties.

APM CR-2b. Conduct a Preconstruction Worker Environmental Awareness Program (see BIO-6, PALEO-3, and W-11). The program would be presented to all proposed project personnel who have the potential to encounter and alter unique archaeological sites, historical resources, or historic properties, or properties that may be eligible for listing in the CRHR or NRHP. This includes construction supervisors as well as field construction personnel. No construction worker would be involved in ground-disturbing activities without having participated in the Worker Environmental Awareness Program.

APM CR-2c. Protective Buffer Zones. Establish and maintain a protective buffer zone around each recorded archaeological site within or immediately adjacent to the right-of-way. A protective buffer zone would be established around each recorded archaeological site and treated as an “environmentally sensitive area” within

which construction activities and personnel are not permitted. Monitoring would be conducted to ensure that the protective areas are maintained.

APM CR-3. Evaluate Significance of Unavoidable Cultural Resources. Evaluate the significance of all cultural resources that cannot be avoided. Cultural resources that cannot be avoided and which have not been evaluated to determine their eligibility for listing in the CRHR or NRHP would be evaluated to determine their historical significance. Evaluation studies would be conducted and documented according to applicable laws, regulations, guidelines, and professional standards.

APM CR-3a. Evaluate Significance of Potentially Eligible Archaeological Resources. Evaluate the significance of archaeological resources potentially eligible for CRHR or NRHP listing. Evaluation of archaeological sites could include scientific excavation of a sample of site constituents sufficient to understand the potential of a site to yield information to address important scientific research questions per CRHR eligibility Criterion 4 and NRHP eligibility Criterion D. Sites with rock art would be evaluated to consider their eligibility per CRHR Criterion 1 and NRHP Criteria A, C, and D.

APM CR-3b. Evaluate Significance of Potentially Eligible Buildings and Structures. Evaluate the significance of buildings and structures potentially eligible for CRHR or NRHP listing. Evaluation would take into account engineering, aesthetic, architectural, and other relevant attributes of each property. Buildings and structures would be evaluated for historical significance per CRHR eligibility Criteria 1, 2, and 3, and NRHP Criteria A, B, and C. A report of the evaluation of each building or structure would be prepared providing a rationale for an assessment of significance consistent with professional standards and guidelines. The report would be filed with the appropriate Information Center of the California Historical Resources Information System.

APM CR-3c. Assist with Native American Consultations. If necessary, the applicant would assist BLM in consultations with Native Americans regarding traditional cultural values that may be associated with archaeological resources. Archaeological or other cultural resources associated with the project may have cultural values ascribed to them by Native Americans. The applicant would assist the BLM during consultation with Native Americans regarding Native American cultural remains.

APM CR-4. Minimize Unavoidable Impacts on Significant Cultural Resources, including Unique Archaeological Sites, Historical Resources, and Historic Properties. The applicant would make reasonable efforts to avoid adverse project effects to unique archaeological sites, historical resources, and historic properties. Nevertheless, it may not be possible to situate all proposed project facilities to completely avoid impacts on significant cultural resources. Impacts on significant cultural resources would be minimized by implementing the measures listed in APM CR-4a.

APM CR-4a. Implement Measures to Minimize Impacts on Significant Archaeological Sites. Prior to construction and during construction, the following measures would be implemented by the applicant to minimize unavoidable impacts on significant archaeological sites:

- To the extent practical, all activities would minimize ground surface disturbance within the bounds of significant archaeological sites, historical resources, or historic properties.
- Portions of significant archaeological sites, historical resources, or historic properties that can be avoided would be protected as environmentally sensitive areas and would remain undisturbed by construction activities.
- Monitoring by qualified professionals and/or Native Americans to ensure that impacts on sites are minimized would be carried out at each affected cultural resource for the period during which construction activities pose a potential threat to the site, and for as long as there is the potential to encounter unanticipated cultural or human remains.
- Additional archaeological studies would be carried out at appropriate sites to ascertain whether project facilities could be located on a portion of a site and cause the least amount of disturbance to significant cultural materials.

- If impacts on significant archaeological (NRHP- or CRHR-eligible) sites eligible under NRHP Criterion D or CRHR Criterion 4 cannot be avoided, archaeological data recovery would be carried out in the portions of affected significant sites that would be impacted. A data recovery plan would be prepared, reviewed by the appropriate agencies, and then implemented in order to recover an adequate sample of cultural remains that can be used to address important eligibility research questions for CRHR Criterion 4 or NRHP Criterion D. Archaeological data recovery would involve scientific excavations; identification of recovered cultural and ecological remains; cataloging, scientific analysis, and interpretation of recovered materials; and preparation of a scientific technical report that describes the methods and results of the data recovery program.
- Reports of any excavations at archaeological sites would be filed with the BLM and the appropriate Information Center of the California Historical Resources Information System.

APM CR-4b. Implement Measures to Minimize Impacts on Significant Buildings and Structures. Prior to construction and during construction, the applicant would implement the following measures to minimize unavoidable impacts on significant buildings and structures:

- Locate proposed project facilities to minimize effects on significant buildings or structures.
- If impacts on significant buildings or structures cannot be avoided, document significant architectural and engineering attributes consistent with the documentation standards of the National Park Service Historic American Buildings Survey/Historic American Engineering Record.
- File reports and other documentation with the BLM, the National Park Service, if appropriate, and appropriate Information Center of the California Historical Resources Information System.

APM CR-5. Prepare and Implement a Construction Monitoring and Unanticipated Cultural Resources Discovery Plan. During construction it is possible that previously unknown archaeological or other cultural resources or human remains could be discovered. Prior to construction, the applicant would prepare a Construction Monitoring and Unanticipated Cultural Resources Discovery Plan to be implemented if an unanticipated discovery is made. At a minimum the plan would detail the following elements:

- Worker and supervisor training in the identification of cultural remains that could be found in the proposed project area, and the implications of disturbance and collection of cultural resources pursuant with the Archaeological Resources Protection Act of 1979
- Worker and supervisor response procedures to be followed in the event of an unanticipated discovery, including appropriate points of contact for professionals qualified to make decisions about the potential significance of any find
- Identities of persons authorized to stop or redirect work that could affect the discovery, and their on-call contact information
- Procedures for monitoring construction activities in archaeologically sensitive areas
- A minimum radius around any discovery within which work would be halted until the significance of the resource has been evaluated and mitigation implemented as appropriate
- Procedures for identifying and evaluating the historical significance of a discovery
- Procedures for consulting Native Americans when identifying and evaluating the significance of discoveries involving Native American cultural materials
- Procedures to be followed for treatment of discovered human remains per current state law and protocol developed in consultation with Native Americans

APM CR-6. Inadvertent Discovery of Human Remains. Any human remains discovered during project activities in California would be protected in accordance with current state law, specifically Section 7050.5 of the California Health and Safety Code, Section 5097.98 of the California Public Resources Code, and Assembly Bill 2641. If human remains determined not to be Native American are unclaimed, they would be treated under the

appropriate State of Nevada statutes, including but not limited to Nevada Revised Statutes Chapter 440 and the regulations of the applicable land management agency. In the event that human remains are recovered on private lands, the landholder would have the right to designate the repository for the remains if they are determined not to be Native American or if their family affiliation cannot be determined.

The provisions of the Native American Grave Protection and Repatriation Act are applicable when Native American human remains are found on federal land (BLM land in California and Nevada). The discovery of human remains would be treated as defined in the Construction Monitoring and Unanticipated Cultural Resources Discovery Plan.

APM CR-7. Native American Participation. Prior to construction, BLM would consult with Native Americans identified by the NAHC as having cultural ties to particular areas of the proposed project. Native Americans would be invited to participate in significance evaluations and data recovery excavations at archaeological sites with Native American cultural remains, as well as in monitoring during project construction. Native Americans would be consulted to develop a protocol for working with each group should human remains affiliated with that group be encountered during project activities.

3.5.3.5 Proposed Project / Proposed Action

Construction

Construction of the EITP would impact cultural resources because of surface and subsurface ground disturbance. This disturbance would result from new road construction, parking in areas off prepared roads, creation and use of temporary laydown areas, and drilling and leveling during construction of tower footings. Cultural resources identified in Sander et al. (2009) and the nature of the potential impact to the resource, if any, by the project are discussed below.

Eldorado–Ivanpah Transmission Line

36-1910 (CA-SBR-1910H)/26CK5685: Although the historic Union Pacific Railroad is eligible for listing on the NRHP, the portions of the resource that are within the EITP ROW have already been impacted by upgrades and have therefore been found to be noncontributing elements to the resource. Construction of the proposed route would thus have no adverse impact.

36-7694 (CA-SBR-7694)/26CK4957: The LADWP Boulder Transmission Line was determined eligible for the NRHP in 1994. The applicant intends to span over the line using H-frame towers, which would allow the EITP line to cross the historic LADWP line without impacting it. Any disturbance or destruction of the contributing elements to this resource would result in an impact. All measures of APM CR-2 would help ensure that adverse impacts would be avoided or minimized.

36-10315 (CA-SBR-10315H): The Boulder Dam–San Bernardino 132-kV Transmission Line would be impacted by the EITP because towers from this line would be removed and replaced with new towers to accommodate the existing and new transmission capacities. While this impact could not be avoided, the impact would be reduced by APM CR-4b, which would require that the resource be fully recorded before adverse impacts were made.

36-6835 (CA-SBR-6835H): The Von Schmidt Survey Line is represented on the ground by a series of cast-iron markers; however, none of these markers is located within, or would be impacted by, the EITP; therefore, the EITP would not result in any adverse impacts to this resource.

36-7689 (CA-SBR-7689H): The Arrowhead Trail Highway is not recommended as eligible for the NRHP due to upgrades and other impacts to the site. A portion of the ROW in nearby Baker was also previously determined to be not eligible for similar reasons. As the site is not a significant resource, the EITP would not have any impacts on the resources.

36-13416 (CA-SBR-12574H): The remains of a telecommunications system that served the Boulder Dam Transmission line lack integrity because the line and telegraph poles have been cut down. This site has been recommended not eligible for the NRHP, so the EITP would not result in any impacts to this resource.

36-13417 (CA-SBR-12575H): The unnamed two-track road that appears to be a route from Yates Well to Ivanpah Springs does not meet the criteria for listing on the NRHP; therefore, the EITP would not result in any impacts to this resource.

26CK2633: The prehistoric lithic scatter, which contained debitage, one projectile point, and two biface fragments, has not been evaluated for eligibility to be listed on the NRHP; however, the applicant plans to avoid this site entirely. Therefore, the EITP would not result in adverse impacts on this resource. APMs CR-2, CR-2b, and CR-2c would also help ensure there would be no adverse impacts.

26CK3023(CRNV-53-4280): The small, east-facing natural rock shelter in the McCullough Range, which contains metate fragments, potsherds, chert flakes, a single petroglyph, and a basalt chopper, has been determined not eligible for listing on the NRHP. Therefore, the EITP would not result in any impacts on this resource.

Telecommunications Line

36-014987 (CA-SBR-13132H): The historic trash scatter containing cans manufactured in the 1950s likely represents a single episode of dumping and is recommended as not eligible for the NRHP. Therefore, the EITP would not result in any impacts to this resource.

36-014988 (CA-SBR-13133H): The historic trash mound containing charcoal, cinders, rock debris, modern glass, ceramics, metal fragments, and sun-colored amethyst glass fragments has been disturbed by relic hunters and is a dump of domestic refuse that likely originated in the nearby community of Nipton. The site is recommended as not eligible for the NRHP; therefore, the EITP would not result in any impacts to this resource.

Potential for Undiscovered Cultural Resources

Assessing potential impacts to undiscovered cultural resources requires an evaluation of the sediment deposition for the project area. The sediments that could contain cultural resources throughout the proposed project ROW have been summarized below from the geology report (SCE 2009).

Eldorado–Ivanpah Transmission Line

The EITP from the McCullough Mountains to the Ivanpah Substation would cross active alluvial washes (Qaag), young playa and playa fringe sediments (Qap, Qapf, and Qypf), young and older-young alluvial fans (Qyag, Qya, Qyao, and Qyaog), young aeolian deposits (Qyae and Qye), and intermediate alluvial fan deposits (Qia and Qiag). Qia fans typically have poorly to moderately well developed desert pavement with desert varnish. The sediments crossed by this portion of the EITP have the potential for buried, and therefore previously unidentified, cultural resources or human remains, including those interred outside of formal cemeteries. Cultural resources may also be discovered on the surface of these sediments.

At the McCullough Mountains, the EITP would cross a short section of intermediate alluvial fan (Qia) deposits with some areas of mixed Qya; these sediments have the potential for buried, and therefore previously unidentified, cultural resources or human remains, including those interred outside of formal cemeteries. Cultural resources may also be discovered on the surface of these sediments. The rest of this segment passes over colluvial deposits and exposed bedrock of volcanic origin that has low potential for buried cultural resources or human remains, including those interred outside of formal cemeteries; however, cultural resources may be discovered on the surface of these sediments.

From Eldorado to the McCullough Mountains, the EITP would cross alluvial deposits consisting of young axial valley (Qyv), young alluvial fans (Qya), and intermediate alluvial fans (Qia), with some areas of mixed Qya and Qia. Qia has poorly to moderately developed desert pavement and desert varnish. The sediments crossed by this portion of the EITP have been determined to have the potential for buried, and therefore previously unidentified, cultural resources or human remains, including those interred outside of formal cemeteries. Cultural resources may also be discovered on the surface of these sediments.

Ivanpah Substation

Grading and cut-and-fill for construction of the Ivanpah Substation would disturb approximately 19 acres. The sediments characterized for the substation location include young and older-young alluvial fans (Qyag and Qyao). No data were given on the depth of these sediments. Qyag and Qyao sediments are of an age that could yield subsurface cultural resources. Cultural resources may also be discovered on the surface of these sediments.

Telecommunications Line

The on-land portion of the proposed telecommunications line traverses land that has poor to moderately well developed desert pavement with desert varnish and that has the potential for buried, and therefore previously unidentified, cultural resources or human remains, including those interred outside of formal cemeteries.

Operation and Maintenance

Operation and maintenance of the proposed project should not further disturb the ground. No impacts are expected from these activities.

NEPA Summary

Construction of the EITP would result in a direct, adverse, and permanent impact to Cultural Resources 36-10315 (CA-SBR-10315H) and 36-7694 (CA-SBR-7694H)/26CK4957 by altering the setting and disturbing elements of the site that contribute to its historic significance. The construction plans call for removal of portions of historic resources; however, as discussed under mitigation measure (MM) CR-2, the resources would be documented according to Historic American Engineering Record (HAER) level 2 standards and potential impacts would be minimized or reduced to less than significant.

Additionally, the proposed project could result in impacts on human remains if there were unanticipated discoveries of human remains during construction. The applicant would reduce impacts on human remains by following the steps outlined in APM CR-6. Finally, the sediments discussed above have the potential to contain buried, and therefore previously unidentified, cultural resources. Such an unanticipated cultural resource could be impacted, as the disturbance could diminish its scientific or cultural integrity. The applicant would reduce such impacts through APMs CR-5 and CR-6. Implementation of MM CR-1 would reduce potential impacts to minor levels.

CEQA Significance Determinations

IMPACT CR-1: Impacts to Cultural Resources 36-10315 (CA-SBR-10315H) and 36-7694 (CA-SBR-7694H/26CK4957
Less than significant without mitigation

The proposed project would result in significant adverse permanent impacts to cultural resources under CEQA if it would cause a substantial adverse change in the significance of a historic resource as defined in California Public Resources Code Section 15064.5. APM CR-1 has been conducted to identify the extent of resources in the proposed project area. APM CR-2 would reduce impacts by avoiding the resources to take care that contributing elements to the resources would not be damaged or destroyed. APM CR-3b would determine the significance of a resource to help determine whether, and how much, mitigation would be necessary (this has not yet been done for the Nevada portions of 36-10315). APM CR-4b would help minimize impacts on resources and would require documentation of the resource according to the National Park Service Historic American Buildings Survey/Historic American

Engineering Record standards. This documentation would be filed with the California Historical Resources Information System, the Nevada State Historic Preservation Office, and the BLM. Therefore, impacts under this criterion would be less than significant.

IMPACT CR-2: Impacts to Previously Unidentified Cultural Resources
Less than significant with mitigation

The sediments discussed above have the potential for buried, and therefore previously unidentified, cultural resources. If any subsurface cultural resources were discovered, major long-term direct impacts to these resources would result from disturbing the ground and altering the setting of the site, as well as disturbing the context of the find and its associations with other resources in the area. This disturbance would diminish the resource's scientific or cultural integrity. Under CEQA, the impact would result from causing a substantial change in the significance of an archaeological resource as defined in Public Resources Code Section 15064.5.

Implementation of MM CR-1 (Cultural Resources Monitoring), MM CR-3 (Archaeological Resources Protection Act Training), APM CR-5 and APM CR-6 would reduce these potential impacts to less than significant levels by requiring an onsite cultural resources monitor who would be able to stop work in an area of a find immediately, thereby limiting the amount of disturbance of the resource, and requiring all construction personnel to understand the federal requirements and implications of unauthorized treatment of archaeological resources. Additionally, implementation of APM CR-2 would reduce these potential impacts to less than significant levels by educating the construction crew on the penalties associated with not reporting a cultural find or of collecting artifacts from federal- or state-controlled land.

IMPACT CR-3: Unanticipated Discovery of Human Remains
Less than significant without mitigation

The proposed project could result in a major long-term direct impact on human remains if there were unanticipated discoveries of human remains during construction. Impacts would result from causing a substantial change in the significance of an archaeological resource as defined in Public Resources Code Section 15064.5. Although no resources with human remains or features known to be likely to contain human remains were discovered during the background research or field studies for the EITP, an APM has been written to account for inadvertent discoveries. APM CR-6 would reduce impacts on human remains because it would require the remains to be secured until appropriate authorities had been called, consultations conducted, and treatment decided.

3.5.3.6 No Project / No Action Alternative

Cultural resources are impacted by any form of ground disturbance, construction on or nearby the resource, demolition of the resource, or other forms of alteration of the resource's setting. Since the No Project Alternative would not involve any construction, demolition, or ground disturbance, there would be no impact to cultural resources.

3.5.3.7 Transmission Alternative Route A

No previously recorded cultural resources were located during the pre-field research, and no newly discovered cultural resources were found during the field survey for Transmission Alternative Route A. Due to the lack of known cultural resources, there would be no impacts to them.

Alternative A crosses active alluvial washes (Qaa), young alluvial fans (Qya), and intermediate alluvial fan (Qia) deposits with some areas of mixed Qya. Qia areas typically have poorly to moderately well developed desert pavement with desert varnish. These sediments have been determined to have the potential for buried, and therefore previously unidentified, cultural resources or human remains, including those interred outside of formal cemeteries. If

any subsurface cultural resources or human remains were discovered, it would result in Impacts CR-2 and CR-3 as described above under the proposed project. Impact CR-3 would be less than significant without mitigation. Implementation of MM CR-1 would reduce Impact CR-2 to less than significant levels. Therefore, with mitigation, Transmission Alternative Route A would result in less than significant, negligible impacts.

3.5.3.8 Transmission Alternative Route B

No previously recorded cultural resources were located during the pre-field research, and no newly discovered cultural resources were found during the field survey of Transmission Alternative Route B. Due to the lack of known cultural resources, there would be no impacts to them.

Alternative B has young alluvial fans, mixed active alluvial washes, axial valley alluvium, and young alluvial fans overlying intermediate alluvial fan deposits. The areas with Qya/Qia deposits exhibit patchy, poorly to moderately well developed desert pavement with desert varnish. These sediments have the potential for buried, and therefore previously unidentified, cultural resources or human remains, including those interred outside of formal cemeteries. Discovery of any subsurface cultural resources or human remains would result in Impacts CR-2 and CR-3 as described above under the proposed project. Impact CR-3 would be less than significant without mitigation. Implementation of MM CR-1 would reduce Impact CR-2 to less than significant levels. Therefore, with mitigation, Transmission Alternative Route B would result in less than significant, negligible impacts.

3.5.3.9 Transmission Alternative Route C

This alternative would result in significant adverse permanent impacts to 36-10315 (CA-SBR-10315H) and 36-7694 (CA-SBR-7694H)/26CK4957 as described above under the proposed project by altering the setting and disturbing the elements contributing to the historic significance of the sites. Such impacts would be direct, adverse, and permanent. APMs CR-1, CR-2, CR-3b, and CR-4b would reduce the impact. There would be no impacts to cultural sites 36-7689 (CA-SBR-7689H) (because it is not recommended for the NRHP) or 26CK4135 (because it is not eligible for the NRHP). The proposed project might result in impacts on human remains, if there were unanticipated discoveries of human remains during construction. Implementation of APM CR-6 would reduce impacts.

Additionally, Alternative C contains the same sediments discussed above under the proposed project, which have the potential for buried, and therefore previously unidentified, cultural resources. Discovery of a subsurface cultural resource could impact the resource because the disturbance could diminish its scientific or cultural integrity. Implementation of MM CR-1 would reduce these potential impacts to less than significant. Therefore, with mitigation, Transmission Alternative Route C would result in less than significant, negligible impacts.

3.5.3.10 Transmission Alternative Route D and Subalternative E

Construction of Transmission Alternative Route D would not result in an impact to cultural resource 36-13416 (CA-SBR-12574H) because this site has been recommended not eligible for the NRHP. However, because the line is associated with the Boulder Transmission Line, it will be included with the Historic American Engineering Record assessment for that line. Subalternative E contains no previously recorded cultural resource, and no cultural resource was discovered during the field survey for this Subalternative; therefore, no impacts to known cultural resources would occur.

Alternative D and Subalternative E cross young playa/lake bed and playa fringe sediments, and young and older-young alluvial fans and young Aeolian deposits. These sediments have the potential for buried, and therefore previously unidentified, cultural resources. Discovery of subsurface cultural resources or human remains would result in Impacts CR-2 and CR-3 as described above under the proposed project. Impact CR-3 would be less than significant without mitigation. Implementation of MM CR-1 would reduce Impact CR-2 to less than significant.

Therefore, with mitigation, Transmission Alternative Route D and Subalternative E would result in less than significant, negligible impacts.

3.5.3.11 Telecommunication Alternative (Golf Course)

The construction of the Golf Course Telecommunication Alternative would not likely result in impacts to cultural resource 36-3048 (CA-SBR-3048H) because the portions of the resource that might be affected by the proposed project development are not recommended as contributing elements of the resource. Likewise, there would be likely be no impacts to cultural resources 36-7802 (CA-SBR-7802H) and 36-014496 (CA-SBR-12980H)) because the sites are recommended not eligible for the NRHP due to disturbances associated with modern upgrades and maintenance, such as road paving. Cultural resource 36-1910 (CA-SBR-1910H)/26CK5685 would also not be impacted by the proposed project because the short sections located within the project corridor are not recommended as contributing elements of the structure. Regular maintenance and upgrades have replaced the original historic materials, and only the original path of the railroad remains.

The Golf Course Telecommunication Alternative crosses sediments described as younger alluvial deposits with no mention of desert pavement. These sediments have the potential for buried, and therefore previously unidentified, cultural resources. Discovery of any subsurface cultural resources or human remains would result in Impacts CR-2 and CR-3 as described above under the proposed project. Impact CR-3 would be less than significant without mitigation. Implementation of MM CR-1 would reduce Impact CR-2 to less than significant. Therefore, with mitigation, the Golf Course Telecommunication Alternative would result in less than significant, negligible impacts.

3.5.3.12 Telecommunication Alternative (Mountain Pass)

Construction of the Mountain Pass Telecommunication Alternative would not likely result in impacts to cultural resources 36-014497 (CA-SBR-12981H), or 36-014498 (CA-SBR-12982H) because these sites appear ineligible for the NRHP, pending formal evaluation. Impacts to cultural resource 36-7347 (CA-SBR-7347H) are unknown because no NRHP determinations have yet been made for the resource.

This alternative crosses sediments described as younger alluvial deposits with no mention of desert pavement**.** These sediments have the potential for buried, and therefore previously unidentified, cultural resources or human remains. If any subsurface cultural resources or human remains were discovered, impacts to these resources would result that could diminish their scientific or cultural integrity. Implementation of MM CR-1 would reduce these potential impacts to less than significant. Therefore, with mitigation, the Mountain Pass Telecommunication Alternative would result in less than significant, negligible impacts.

3.5.4 Mitigation Measures

MM CR-1: Cultural Resources Monitoring. The applicant will retain a cultural resources monitor who meets the Secretary of the Interior Standards of a Qualified Professional Archaeologist prior to commencing construction or geotechnical test trenching on the project. The archaeologist will need to be approved by the BLM and will provide construction monitoring for any geotechnical studies that require trench excavation. As mentioned in APM GEO-1, five of the tower installations and 20 percent of the ground-trenching activities are in archaeologically sensitive areas. Monitoring in these areas will be determined by the BLM prior to construction.

Monitoring is necessary because a potential for cultural resources beneath desert pavement surfaces on alluvial planes was recently determined. Such conditions exist throughout much of the EITP project area. This monitoring effort would be used to protect potential resources and to provide data to help confirm or deny the theory of desert pavement development that would allow for buried cultural resources. BLM reserves the right to increase the amount of monitoring at any time if conditions reveal the necessity.

The archaeologist will present to the BLM for approval, no less than 60 days prior to commencement of construction, a monitoring plan; copies of which will also be submitted to the CPUC by the archaeologist. The archaeologist will also provide a report of findings after the monitoring has been completed. Because this geoarchaeological sensitivity has not been widely tested, the BLM is requiring only a small sample of monitoring at this time; further monitoring will only be required if the need is proven.

MM CR-2: Historic American Engineering Record Recordation. Prior to construction of the EITP, the applicant will retain a cultural resources specialist qualified to conduct HAER recordation, meeting the Secretary of the Interior Standards. The qualified cultural resources specialist will conduct HAER recordation on Cultural Resources 36-10315 (CA-SBR-10315H) and 36-7694 (CA-SBR-7694H)/26CK4957. HAER recordation will be conducted in accordance the Secretary of the Interior's Standards for Architectural and Engineering Documentation, following Documentation Criteria Level II, as appropriate, for the level of significance assigned to the resources.

MM CR-3: Archaeological Resources Protection Act (ARPA) Training. Prior to construction, the applicant will provide ARPA training with the preconstruction Worker Environmental Awareness Program (WEAP; APM CR-2b). As required for the WEAP, ARPA training will be presented to all proposed project personnel who have the potential to encounter and alter unique archaeological sites, historical resources, or historic properties, or properties that may be eligible for listing in the NRHP. This includes construction supervisors as well as field construction personnel. No construction worker would be involved in ground-disturbing activities without having participated in the ARPA training portion of the WEAP.

3.5.5 Whole of the Action / Cumulative Action

Below is a brief summary of information related to cultural resources in the ISEGS FSA/DEIS prepared by the CEC and the BLM. This section focuses on differences in setting and methodology and discloses any additional impacts or mitigation as imposed by the CEC and the BLM.

3.5.5.1 Setting

The ISEGS project is located on the bajada that overlooks the western side of the Ivanpah dry lake bed. Although the lake bed is dry now, its presence testifies to a much more humid time around the end of the Pleistocene. Throughout the Holocene, the project area became more and more arid, causing the evaporation of Ivanpah and many other lakes in the area. The lakes have been fully desiccated since the end of the mid-Holocene Altithermal at approximately 5,000 BP. The climate in the Mojave since the Altithermal has been more mesic, with likely wet periods happening at least twice between 5,000 BP and EuroAmerican discovery of the area.

The ground surface of the project area is characterized by patches of desert pavement of varying ages interspersed with intermittent stream channels.

3.5.5.2 Methodology

The ISEGS project analysis began with data collection and Native American consultation, primary field research, and cultural resources evaluation for historical significance. The area analyzed included the immediate project footprint, the area that encompasses the project site and ancillary facilities, and the surrounding area that may be impacted visually by the project.

The background research for the ISEGS project included a literature and records search at the San Bernardino Archaeological Information Center and at the BLM Needles Field Office, which has accumulated data on known cultural resources in the project area. A request was also made to the NAHC to conduct a search of the Sacred Lands File to determine whether there are any reported Native American sacred sites in the project area, and to

request a list of Native American contacts who may have knowledge about or concerns related to cultural resources in the area.

The ISEGS cultural consultant, CH2M Hill, sent out letters to the Native American contact list provided by the NAHC to elicit comment from the Native American community. In October 2007, BLM sent letters to potentially affected tribes to initiate the government-to-government Section 106 Consultation procedures. A follow-up letter was sent by BLM in March 2009 to inform the tribes of the discovery of a cultural resources site (ISEGS-01) during the pedestrian survey.

Cultural resources fieldwork conducted for the ISEGS project included five separate field investigations. These included a geoarchaeological study (CH2M Hill and Carrier 2008), primary intensive pedestrian cultural resources survey and supplemental intensive pedestrian cultural resources surveys (Fergusson 2007), a pedestrian reconnaissance survey of project area inselbergs (Energy Commission Staff field notes), and a helicopter and pedestrian reconnaissance survey (Helton 2008, Lawson et al. 2008). All of the cultural resources found within the impact areas of the project site were evaluated for their eligibility to be listed on both the CRHR and the NRHP.

3.5.5.3 Impacts

The CEC has published the following impacts related to cultural resources for the ISEGS project:

One cultural resource on the ISEGS project site, CA-SBR-10315H (the Boulder Dam to San Bernardino Transmission Line), has been determined eligible for the NRHP, and is listed on the CRHR. The potential effects of the project on the resource would be cumulative rather than direct or indirect. Analysis of the impact determined that the ISEGS project would be responsible for partial (approximately 21%) destruction of the resource. Conditions of Certification CUL-8 and -9 were crafted to offset these effects.

3.5.5.4 Mitigation Measures

The ISEGS FSA/DEIS recommends that the following Conditions of Certification be required by the CEC and the BLM to lessen impacts to cultural resources if the project is approved:

CUL-1 calls for the project owner to retain the services of a Cultural Resources Specialist (CRS) to manage the project and oversee any Cultural Resources Monitors that may be required during project construction.

CUL-2 requires that all documentation pertaining to the development plans and maps be provided to the CRS for review, and that the CRS consult on a weekly basis with the construction manager to confirm which areas will be worked on in the following week.

CUL-3 requires that the CRS prepare and submit a Cultural Resources Monitoring and Mitigation Plan to the BLM for review and approval prior to the start of ground disturbance.

CUL-4 requires that the CRS prepare a Cultural Resources Report to the BLM at the conclusion or major suspension of ground-disturbing or construction activities. The report is to summarize all field methods, findings, sampling, and analyses undertaken as a result of monitoring finds.

CUL-5 requires that the project owner provide a Worker Environmental Awareness Program training session to all new workers within their first week of employment at the project site.

CUL-6 requires that construction and ground-disturbing activities cease in the area around any discovery of cultural resources. The CRS must be immediately notified of the find and will evaluate the NRHP and CRHR eligibility of the find.

CUL-7 establishes that monitoring may be necessary in certain areas of the project for continued ground-disturbing activities during project construction if a buried cultural resource is found.

CUL-8 requires that the services of an architectural historian be retained prior to any impacts to CA-SBR-10315H.

CUL-9 requires that Historic American Engineering Record documentation be conducted prior to any impacts to CA-SBR-10315H.

CUL-10 requires that any noncommercial soil borrow or disposal sites be surveyed for cultural resources prior to their use unless a survey has been done in those areas within the last five years.

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