

SANDLOT SUBSTATION PROJECT

Mitigation Monitoring, Reporting, and Compliance Program Final Report

Prepared for
California Public Utilities Commission
505 Van Ness Avenue, Fourth Floor
San Francisco, CA 94102
Contact: Jensen Uchida, Energy Division

March 2015



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550 Kearny Street
Suite 800
San Francisco, CA 94108
415.896.5900
www.esassoc.com

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1. Introduction

Southern California Edison (SCE) constructed the Sandlot Substation Project (also referred to here as simply the project) and related facilities between April 2012 and July 2013. The project allowed the Abengoa Mojave Solar Project (AMSP) and other renewable generation development projects in the Mojave Desert to connect and deliver solar generation to the electric grid via the existing Cool Water-Kramer No.1 220 kV transmission line. On November 24, 2014, the back-feed to AMSP was completed and AMSP began commercial operation on Dec. 4, 2014. This report summarizes the mitigation monitoring, reporting, and compliance activities for the project's pre-construction surveys and during project construction activity. An overview of the project area is provided in **Figure 1**.

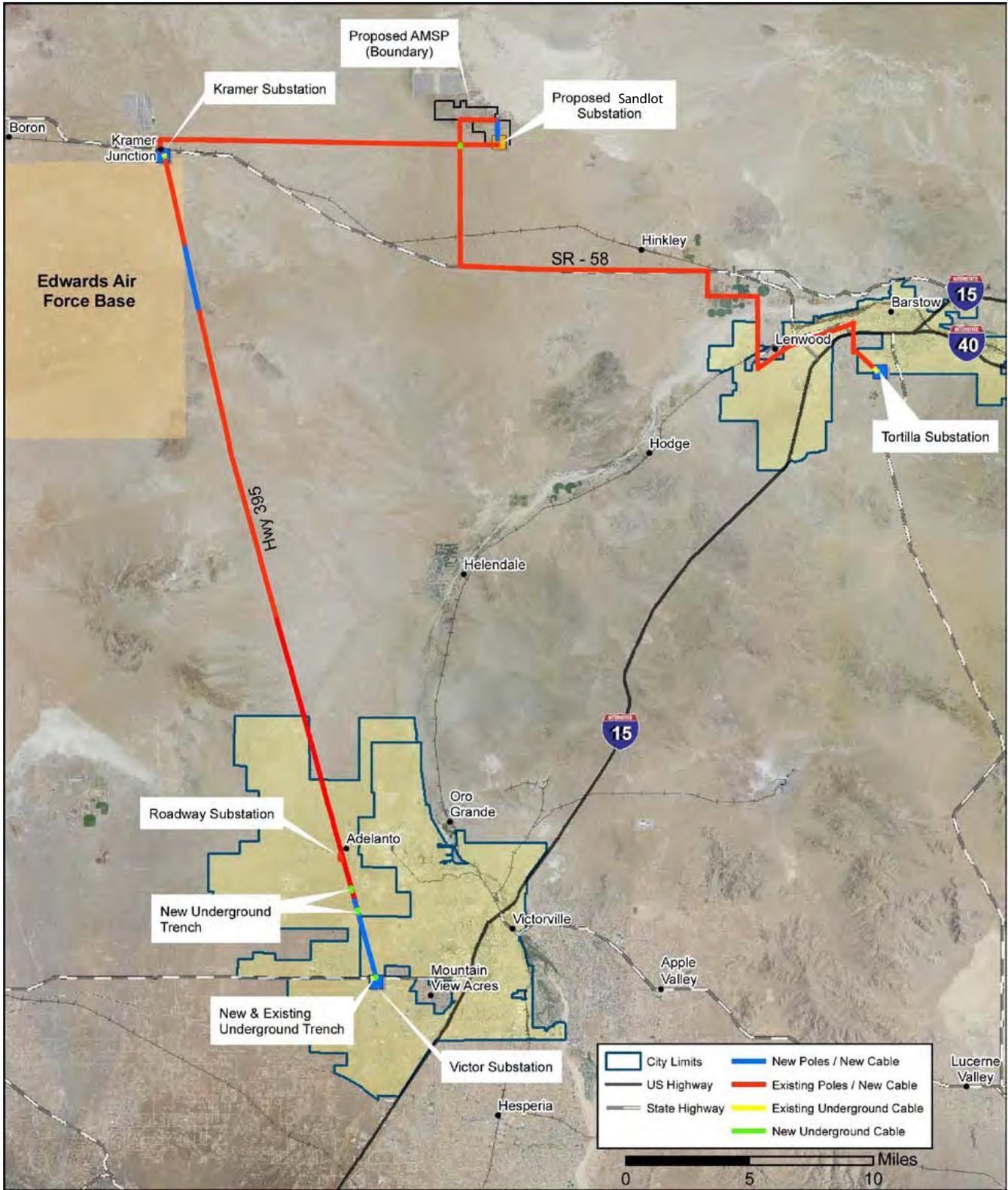
The project was originally named the Lockhart Substation Project; however, due to an existing circuit in the system with the identical name of Lockhart, the project name changed to the Water Valley Substation Project. Subsequently, SCE determined the Water Valley Substation Project name was too similar to other circuit and facility names within geographic proximity. As such, SCE changed the project name to Sandlot Substation Project.

The project comprised of the following five components:

- **Sandlot Substation** includes a 220 kV substation (Sandlot Substation) to loop-in the existing Coolwater-Kramer No. 1 220 kV transmission line and to provide two 220 kV line positions to terminate two new 220 kV gen-ties owned by Mojave Solar.
- **Generation Tie Line Connections** connect the two Mojave Solar-built gen-ties into SCE's Sandlot Substation. This work involved construction of two single spans of conductors between the Sandlot Substation switchrack and the last Mojave Solar-owned tower(s).
- **Distribution Facilities** connect the new substation to SCE's existing Hutt 12 kV distribution circuit out of the Hutt Poletop Substation. A range of approximately 200 to 400 feet of two 5-inch underground conduits (along with conduits for telecom) have been installed from the new riser pole west of the new substation to the 12 kV rack to provide a path for the required substation light and power, as well as temporary power necessary for the construction of the new substation and AMSP facilities.
- **Transmission Lines** loop the existing Coolwater-Kramer No. 1 220 kV transmission line into the new substation. The transmission loop required construction of approximately 3,000 feet of new transmission line segments (parallel lines, each approximately 1,500 feet) creating the new Sandlot-Kramer and Coolwater-Sandlot 220 kV transmission lines.
- **Telecommunications Facilities** required installation of fiber-optic communication cables, associated poles, conduits, and other telecommunication facilities, including a telecommunications room at Tortilla Substation, to provide diverse path routing of communications required for the AMSP interconnection, and to provide communications redundancy at the two AMSP power blocks. Work also included installing communication paths between the Victor, Roadway, Tortilla, Kramer, Sandlot, and

Coolwater substations by means of stringing cable on existing transmission line poles and on seven replacement poles, constructing new interset poles, placing segments of cable in existing underground conduit, and placing cable in new underground conduit. Approximately 85 miles of fiber-optic cable was installed along these three routes, 17 miles of which cross U.S. Bureau of Land Management (BLM) administered lands. Portions of the fiber-optic cable routes also pass through the cities of Adelanto, Victorville, and Barstow.

As the CEQA lead agency for the project, the California Public Utilities Commission (CPUC) and its consultant, Environmental Science Associates (ESA), provided regulatory oversight of construction through enforcement of its Mitigation Monitoring, Reporting, and Compliance Program (MMRCP) for the project. In accordance with the Final Initial Study/Mitigated Negative Declaration (IS/MND) (CPUC, 2011) for the project, SCE retained Environmental Intelligence (EI) to provide on-site oversight of SCE's compliance implementation and coordinate with SCE's environmental staff. As third-party representatives, EI's primary responsibility was to ensure adherence to the project's environmental requirements and mitigation measures and to report mitigation monitoring activities to the CPUC. This MMRCP Final Report provides the CPUC with an administrative record of environmental compliance to applicable measures and conditions as identified in the IS/MND for construction activities that occurred through the duration of the project.



SOURCE: DOE, 2011

Sandlot Substation Project . 207584.10

Figure 1-1
Project Location and Vicinity Map

2. Regulatory Permits

The project was implemented in compliance with federal, state, and regional regulations. Although waters of the U.S. are on-site, project activities would occur outside of those resources; therefore, the U.S. Army Corps of Engineers determined the project was not subject to Section 404 of the Clean Water Act (USACE, 2012). Therefore, no federal permits were required for the project. For a list of the State and local agency permits that were required for the project, refer to Table 1.

**TABLE 1
SUMMARY OF REQUIRED PERMITS AND APPROVALS**

Permit/Approval/Consultation	Agency	Jurisdiction/Purpose
State		
Permit to Construct	California Public Utilities Commission	Overall project approval and California Environmental Quality Act (CEQA) review
National Pollutant Discharge Elimination System Construction Stormwater Permit	California Regional Water Quality Control Board (RWQCB)	Storm water discharges associated with construction activities disturbing more than 1 acre of land
Clean Water Act Section 401 Water Quality Certification (or waiver)	RWQCB	Certifies that project is consistent with State water quality standards
Encroachment Permit	California Department of Transportation	Construction, operation, and maintenance within, under, or over state highway right-of-way.
Endangered Species Consultation	California Department of Fish and Wildlife	Construction, operation, and maintenance that may affect a State-listed species or its habitat; incidental take authorization (if required)
Local		
Encroachment Permit (ministerial)	San Bernardino County and the cities of Adelanto, Victorville, and Barstow	Construction, operation, and maintenance within, under, or over local road rights-of-way
Grading Permit	San Bernardino County	Construction grading

3. Construction Activities and Schedule

During project construction, SCE organized project activities into five groups, each of which are covered under separate Notice to Proceed (NTP) requests:

NTP No. 1 included:

- Construction and installation of all three telecommunication lines: Kramer-Victor, Kramer-Sandlot, and Sandlot-Tortilla;
- Installation of the new telecommunication components on the existing 115 kV (or lower voltage) subtransmission lines;

-
- Installation of 17 new wood interset poles along the Kramer-Victor route and replacing seven existing wood poles between the Kramer and Tortilla segment;
 - Construction of two sections of underground telecommunication trenches in Barstow and Adelanto, California; and
 - Installation of telecommunication equipment at the Victor, Roadway, Tortilla, Kramer, Sandlot, Lugo, and Coolwater substations.

NTP No. 1A included the removal of three existing distribution poles and associated conductor from within the AMSP site boundary.

NTP No. 2 included:

- Installation of the distribution system for station light and power to the Sandlot Substation;
- Installation of the distribution to provide temporary power for construction of the Sandlot Substation;
- Installation of the distribution to provide temporary power for construction of the AMSP; and
- Construction of the fiber-optic telecommunication link between the AMSP Alpha and Beta Plants and the Sandlot Substation.

NTP No. 3 included:

- Completion of site preparation at the Sandlot Substation location; and
- Construction of the Sandlot Substation including a six-bay 220 kV switchrack.

NTP No. 4 included:

- Construction of the Sandlot Substation loop-in lines in support of the AMSP. The Sandlot Substation was connected to an existing SCE transmission line via two 1,500 foot lengths of 220 kV loop-in transmission lines.

During the project, all five NTP requests were submitted by SCE and approved by the CPUC. CPUC approval letters for each NTP are included in **Appendix A**.

4. Third Party Monitoring and Level of Effort

As SCE's consultants, EI's Environmental Monitor (EM) performed environmental review and provided reporting to the CPUC during the project's construction activities. EI monitored compliance with all applicable project plans, agency permits, and CPUC mitigation measures, and interacted with SCE's Environmental Inspectors in the field to resolve compliance situations. ESA assisted with review of SCE Notice to Proceed (NTP) requests and verification of other pre-construction documentation.

ESA's Project Manager oversaw tasks as performed by EI's EM and provided guidance and recommendations to the EM on specific compliance issues in regard to the project's environmental regulations and implementation of the mitigation measures described in the Final IS/MND. In conjunction with the EM, ESA participated in the review of SCE NTP requests and other pre-construction documentation. ESA also oversaw the resolution of complex and/or controversial field issues in coordination with the CPUC and SCE's construction management and environmental team.

EI's EMs conducted site visits daily during the majority of construction of the project from April 2012 through July 2013.

5. Pre-Construction Surveys

Biological

Pursuant to the project's MMRCPP, pre-construction surveys were performed prior to the start of construction in areas not previously disturbed. The results of those surveys are available below and in **Appendix B**.

Jurisdictional Features

SCE conducted an intermediate level engineering review for the purposes of determining the potential amount and level of impact to state and federal jurisdictional waters regarding the three telecommunication fiber-optic cable routes for the project.

In July 2011, a jurisdictional delineation report was prepared to discuss the type and amount of potentially regulated aquatic resources occurring within the project survey area. Within the project survey area, approximately 35.68 acres of potential jurisdictional waters of the U.S. and state were formally delineated. All construction activities related to the project were designed to avoid all potential jurisdictional waters of the U.S. and state. The project's jurisdictional wetland delineation is displayed in Appendix B.

Wildlife

In addition to preconstruction survey results of listed special status species identified below, surveys were performed for species of special concern and raptors. All survey results are displayed in Appendix B.

Desert Tortoise (DT)

Results of DT reconnaissance and focused protocol surveys for the AMSP indicated that very few DTs utilized the site over a 4-year period. During the survey period, the majority of the DTs observed were outside the project study area. One DT was observed in the project study area in 2006, and in 2008, 35 DTs were observed in the Zone of Influence (ZOI) transects. Other signs of the presence of DTs consisted mainly of DT carcasses.

Swainson's Hawk (SWHA)

Suitable nesting and foraging habitat for SWHA was found in the project study area. A single and a pair of SWHA were observed in 2007 in the project study area. At least two large, empty stick nests were also found within a 1-mile buffer of the project area; however, no observations of active nests were observed during the surveys.

American Peregrine Falcon

One American peregrine falcon, likely a transient, was detected within the project study area perched north of the active agricultural field in 2007.

Willow Flycatcher

In 2007, a willow flycatcher was observed within the project study area during a spring migratory period; however, it was determined that no suitable willow flycatcher breeding habitat occurs within the area.

Mojave Ground Squirrel (MGS)

No MGS were detected during habitat assessment activities in 2008. The AMSP/Sandlot Substation area is surrounded by the MGS Conservation Area; however, all of the area lies outside the MGS Conservation Area.

Cultural and Paleontological Resources

Cultural and paleontological resources monitoring activities were conducted throughout project construction and results of nine pre-construction mechanical borings performed by LSA Associates, Inc. in October, 2011 identified no resources.

6. Environmental Training

Prior to construction, SCE prepared a Worker Environmental Awareness Program (WEAP) to communicate environmental concerns, mitigation requirements, and appropriate work practices to all construction and supervisory personnel involved with project construction. The training program focused on site-specific conditions and included a review of the requirements specific to each portion of the project, and on describing the sensitive cultural and biological resources in the project area and the associated avoidance and minimization measures implemented by the project. Each worker received a project-specific hardhat decal indicating receipt of the training.

Environmental trainings were provided on each day new employees arrived to the project. As work proceeded through the five approved NTPs, SCE's Environmental Inspectors routinely conducted onsite environmental training as new construction phases began and project personnel arrived at the project site. Throughout construction, EI's EM conducted visual inspections of hardhats to verify that construction personnel working on the job had been environmentally trained prior to beginning work. The WEAP supporting documents are displayed in **Appendix C**.

7. Compliance Monitoring Summary

Mitigation Measures

The EI EM conducted environmental site inspections to assess implementation of the project's environmental requirements by SCE and their contractors. Prior to the start of construction, CPUC, SCE, EI, and ESA reviewed the plans prepared for the project and required under the MMRCP. The plans are included in **Appendix D**, and include:

- Air Quality Construction Mitigation and Dust Control Plan;
- Biological Resources Mitigation Implementation and Monitoring Plan;
- Burrowing Owl Monitoring and Mitigation Plan;
- Common Raven Monitoring, Management, and Control Plan;
- Desert Tortoise Plan;
- Emergency Response Plan;
- Fire Safety Plan;
- Golden Eagle Territory-Specific Management Plan;
- Habitat Restoration Plan;
- Hazardous Materials and Hazardous Waste Handling Plan ;
- Health and Safety Program;
- Permitting Regulatory Compliance Plan; and
- Storm Water Pollution Prevention Plan (SWPPP).

SCE Environmental Inspectors were onsite daily to implement compliance, in addition, EI's EM conducted site inspections (scheduled and unscheduled) throughout all phases of the project's construction. Cultural inspections were performed by subcontractors, such as LSA Associates, on a regular basis. Archaeological and tribal monitors were required for all ground disturbing activities in the project area. Based upon these inspections, EI prepared daily environmental monitoring reports summarizing construction progress, conformance to the project's environmental commitments and mitigation measures, and provided recommendations as necessary for improved compliance.

Reporting and Compliance Levels

EI prepared weekly or monthly monitoring summaries to track the progress of construction and to ensure the project's environmental mitigation measures were being satisfactorily implemented. These monitoring reports are provided in **Appendix E**. If compliance concerns arose, corrective actions were typically taken in a timely fashion and prevented most compliance issues or minor problems from becoming more serious. Events documented in the EI weekly monitoring reports provide examples of potential compliance concerns that were appropriately addressed by SCE. ESA also provided compliance recommendations or listed corrective actions required to bring the project into compliance. SCE compliance levels used during the project are:

-
- **Acceptable.** Site-specific conditions or activities that achieve compliance with the project's environmental requirements.
 - **Occurrence.** An activity or occurrence that needs to be highlighted and addressed, but does not necessarily affect the project's compliance record. Occurrences are documented in the EI Weekly or Monthly Monitoring Summary reports submitted to CPUC/ESA and included in Appendix E.
 - **Minor Problem.** A slight deviation from the environmental requirements with little or no impact to sensitive resources. Minor problems require timely corrective action. If a minor problem is issued, SCE's environmental team would notify the EI EM within twenty four hours and document the minor problem in the EI Weekly Monitoring Summary submitted to CPUC/ESA.
 - **Compliance Issue.** A situation in the field that needs to be addressed immediately to prevent resource damage or environmental non-compliance. In addition, a compliance issue may be identified by the SCE Environmental Inspector or the EI EM if there are repeated minor problems that, as a group, show a trend toward placing resources at unnecessary risk. Compliance issues are typically addressed immediately or before the end of the workday.

If the SCE crew or contractor fails to address an issue in a timely manner, or conditions worsen due to a lack of response, the environmental team may elevate the compliance level to a non-compliance. Compliance issues are included in the SCE monthly compliance status report submitted to CPUC/ESA.

- **Non-Compliance.** "Non-compliance" is assigned to an activity that violates the environmental requirements and results in an impact to resources or places environmental resources at risk. A Non-Compliance Notice would be immediately issued. Appropriate corrective actions to resolve non-compliance events must be taken immediately; if the issue is not resolved immediately, the CPUC Project Manager would set a date for resolution. A Non-Compliance Resolution Report would be submitted to the CPUC Project Manager once corrective action is complete.

Positive Compliance

Positive compliance was a regular occurrence during project construction. Examples of positive compliance by SCE and their contractors included the completion and communication of required pre-construction surveys, the installation and maintenance of exclusion fencing, and timely responses to hazardous materials spills and leaks. Two examples of positive compliance occurrences are discussed below.

-
- SCE requested testing results of the project's circuit breakers from the manufacturer (ABB Inc.). Per the project's CEQA mitigation measure GHG-1, the test results indicated compliance with CCR Title 17, Section 95356.
 - On April 24, 2012, an SCE biologist detected an active common raven nest within approximately 75 feet of the Tortilla Substation construction area. The nest appeared to have eggs being incubated by the adult raven. SCE, in concurrence with California Department of Fish and Wildlife (CDFW) and BLM, initiated and enforced a 75-foot buffer for construction activity surrounding the raven's nest, including full-time monitoring of the nest and the ability to cease construction activity if change in behavior (e.g., possible failure of breeding) as a result of construction activity is observed.

Compliance Monitoring Summary

EI provided biological monitoring at each construction site within the project area every day construction activities occurred. The following compliance level designations were used to document environmental compliance activities. A brief summary of events that occurred under each designation is also included below.

Minor Problems

Minor problems documented in the EI EM daily logs during project construction include the following issues: transmission line poles knocked down; minor hydraulic fluid spills; equipment oil leaks; lack of a California Air Resources Board (CARB) equipment identification number displayed properly in a construction vehicle; gate to Beta East on Lockhart Road left unsecure; excavated areas left overnight without being covered or wildlife ramp not installed; and displaced soil related to construction activity left on nearby public streets. All of these issues were corrected in a timely fashion.

Additional information regarding these minor problems that occurred during the project is included **Appendix F**, *Minor Problems and Compliance Issues*. Other minor problems that occurred throughout the construction period of the project are displayed in the weekly monitoring summary reports presented in **Appendix E**.

Compliance Issues

Compliance Issues documented in the EI EM summary reports during construction of the project included consistent concerns involving SCE vehicles using Santa Fe Road to access AMSP and Sandlot Substation properties. Santa Fe Road is not an approved access road to the project sites. This issue was an ongoing compliance concern, which remained inadequately addressed by the contractor.

Another minor compliance issue occurred when a subcontractor concrete truck driver performed truck wash out practices outside of the active construction site. The driver was informed this action was in violation of the SWPPP and to stop work. The issue was resolved and no water left the site as a result of the incident.

Complete descriptions of all compliance issues that occurred during project construction, including corrective action recommendations made by EI or SCE, may be found in **Appendix F**.

Non-Compliance Events and Resolution

The following Non-Compliance events were documented during construction of the project. Additional documentation for each Non-Compliance Event is included in **Appendix F**.

November 16, 2012:

One chert core and 15 pieces of obsidian (including three bifacially worked pieces, three core reduction flakes, one biface thinning flake, seven interior core chatter pieces, and one large core shatter piece) were observed in an area measuring 8 by 15 meters on November 14, 2012. Upon the immediate discovery of the site, LSA Field Director Ivan Strudwick notified BLM of the find and implemented avoidance measures to prevent potential adverse effects to the resource.

On the morning of November 16th, all obsidian pieces were observed at the site; however, that afternoon, one bifacially worked flake was missing. Monitors who noticed the missing piece did not identify the item as “missing” at the time, but rather thought the artifact was pushed out of sight, and therefore took no action. By November 19th, an additional nine obsidian flakes were missing from the site; however, the monitors did not report the incident to the LSA Cultural Resources Field Director until the end of the day. Documentation of the missing items occurred the morning of November 20th at which time the BLM Archaeologist and SCE Project Archaeologist were notified.

Items missing included: three bifacially worked pieces, two core reduction flakes, four pieces of interior shatter, and one biface thinning flake. Except for one large core shatter that remains, the pieces taken were the largest pieces. The footprints of an individual wearing tennis shoes with a distinctive XXX sole pattern were observed around the entire site. No one from the construction site was wearing the distinctive sole pattern.

SCE initiated an internal, unbiased root-cause analysis of the event and communicated to all team members and construction workers that they need to be vigilant when on any construction site and to also be aware of the consequences of taking or moving any resources, as well as not disclosing locations of cultural resources to any individual.

January 11, 2013:

A Non-Compliance was issued as a result of a contractor’s concrete delivery truck that tipped over adjacent to a trench and landed on a high pressure gas line owned by Pacific Gas & Electric Company (PG&E). At approximately 11:30 a.m., a Weissker crew was digging a trench for SCE Carrier Solutions in front of 37000 E. Santa Fe Street, Daggett. The concrete delivery truck driver reversed onto unstable soil and slid into an excavation, landing on a 34-inch high pressure PG&E gas line. The on-site spotter immediately called PG&E to notify them of the accident. Cal Fire and San Bernardino County Sheriff arrived on-site and closed Santa Fe Street to traffic. The concrete delivery truck Area Manager, two big rig wreckers, SCE support trucks, and PG&E representatives all arrived on-site. The concrete truck was removed from the excavated pit around

5:30 p.m. before crews backfilled the remaining open trench and barricaded the area around the PG&E gas line. The following day, PG&E inspected the gas line where the incident occurred the previous day.

Following the incident, SCE recommended concrete drivers ensure they make contact with all involved parties in the pour. In addition, it was recommended that all drivers inquire about potential unforeseen hazards on-site and remain in eye contact with assisting crews, whenever possible.

8. Variances

Over the course of construction, all project modification requests were submitted to the CPUC for consideration. During construction of the project, a total of two variance requests were submitted to the CPUC, both of which were approved. A summary of these variance requests are provided below.

Variance Request No. 1. Request to perform approximately 2,150 feet of trench work to install underground 5-inch PVC pipe conduits; three 4-foot, by 4-foot, by 6-foot new manholes; and to install fiber-optic cable in new and existing conduits at the Coolwater Generating Station location (existing station), except in areas adjacent to the flood control channel. Construction activities were outside the project site fence line but within SCE property and franchise area (public right-of-way). This variance was approved by the CPUC on November 5, 2012.

Variance Request No. 2. Request to trench and install new conduit in areas adjacent to the flood control channel at the Cool Water Substation. The trench was approximately 100 feet long and located parallel to Santa Fe Street. Pursuant to the “No permit required” determination from the U.S. Army Corps of Engineers, this variance was approved by the CPUC on January 8, 2013.

Complete variance request documentation is included in **Appendix G, Variances**.

9. Status of Project

With the exception of environmental restoration efforts, which could take up to 12 months to complete, the construction of the Sandlot Substation Project was complete and operational in June 2013. At that time, the Substation’s transformers became energized and electricity was transmitted from the AMSP Substation. AMSP began commercial operation in December 2014, at which time electricity flowed from the power plant into Sandlot Substation.

10. References

California Public Utilities Commission (CPUC), 2011. Final Initial Study/Mitigated Negative Declaration, CPUC A.11-05-006. State Clearing House No. 2011051041. July 2011.

U.S. Army Corps of Engineers (USACE), 2012. Preliminary Jurisdictional Determination regarding presence/absence of geographic jurisdiction for Corps File No. SPL-2011-01079-GS, March 5, 2012.