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California Energy Commission
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09-AFC-7C
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Subject: PALEN SOLAR HOLDINGS, LLC'S RESPONSE TO CEC STAFF DATA

REQUEST SET 3 (40-72)

PALEN SOLAR ELECTRIC GENERATING SYSTEM

DOCKET NO. (09-AFC-7C)

Dear Ms. Stora,

On behalf of Palen Solar Holdings, LLC, enclosed for filing with the California Energy Commission is the electronic version of **PALEN SOLAR HOLDINGS**, **LLC'S RESPONSE TO CEC STAFF DATA REQUEST SET 3 (40-72)**, for the Palen Solar Electric Generating System (09-AFC-7C).

Sincerely,

Scott A. Galati

Sig A. C

Counsel to Palen Solar Holdings, LLC

RESPONSE TO CEC STAFF DATA REQUEST SET 3 (40-72)

In support of the

PETITION TO AMEND

for the

PALEN SOLAR ELECTRIC GENERATING SYSTEM

(09-AFC-7C)

Submitted to the:

California Energy Commission

Submitted by:

PALEN SOLAR HOLDINGS, LLC

Prepared by:

centerline

JUNE 2013

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INTRODUCTION

Attached are Palen Solar Holdings, LLC's (PSH) responses to California Energy Commission (CEC) Staff Data Request Set No. 3 (40-72) for the Palen Solar Electric Generating System (PSEGS or Modified Project) Petition for Amendment (09-AFC-7C). Staff issued Data Request Set No. 3 (40-72) to PSH on May 15, 2013.

The Data Responses are grouped by individual discipline or topic area. Within each discipline area, the responses are presented in the same order as Staff presented them and are keyed to the Data Request numbers (40-72). Additional tables, figures, or documents submitted in response to a data request (e.g., supporting data, stand-alone documents such as plans, folding graphics, etc.) are found at the end of a discipline-specific section and are not sequentially page-numbered consistently with the remainder of the document, although they may have their own internal page numbering system.

For context, the text of the Background and Data Request precede each Data Response.

BIOLOGICAL RESOURCES (40-53)

BACKGROUND: AVIFAUNA BASELINE DATA COLLECTION

Renewable Energy Action Team (REAT) agencies' biologists include staff from the U.S. Fish and Wildlife Service (USFWS), Bureau of Land Management (BLM), California Department of Fish and Wildlife (CDFW), and California Energy Commission. The REAT agencies biologists are concerned that resident and migratory birds may be killed or injured due to the construction and operation of the proposed power tower project. These effects include but are not limited to injuries or risk of mortality due to collisions with the power towers and heliostats, exposure to concentrated solar energy (flux), or by attempting to perch on the power towers. In order to further evaluate these risks the REAT agencies biologists have worked collaboratively to develop site-specific survey protocols to support the analysis of the Palen Solar Electric Generating System's (project) direct, indirect, and cumulative impacts to avian species. The REAT agencies' guidance titled Interagency Recommendations: Migratory and Breeding Season Bird and Bat Baseline Data for the Palen Solar Energy Generating System (PSEGS) Project, Riverside County, California, was transmitted to the project owner on March 15, 2013. This guidance includes both specific methods for the collection of baseline data and recommendations for long-term studies that provide data for evaluating long-term use of the project area by various species of birds. Information highlighted in the Interagency Recommendations included guidance on determining species abundance and diversity; evaluating habitat use and flight patterns in the area; and obtaining information on the assemblage of migratory, breeding, resident, and wintering species that occur in the area. Specific guidance focused on:

- Breeding and non-breeding season avian surveys for passerine, waterfowl, and upland birds;
- Migration surveys;
- Breeding and non-breeding season surveys for golden eagle and other raptor surveys; and
- Recommendations for bat surveys.

The intent of these data requests is to:

- Specify survey data staff considers necessary to support the analysis or compliance requirements for the project for avian species and bats;
- Ascertain the existing types and methods of surveys currently planned or underway to document avian use, abundance, and migratory patterns;

- Obtain required analysis and data to support the potential use of the site by various species of birds or bats; and
- Obtain required data and analysis to determine the effects of flux to vegetation and to support the management of vegetation and weeds.

The information requested would provide staff with data to address changes in the proposed technology; notably a shift from trough to power tower technology. Use of power towers alters the risk to avian species when compared to the approved project. These factors may include: exposure to elevated levels of solar flux; increased collision risk with heliostats and power towers; alteration of bird behavior including risk to migratory birds from Federal Aviation Administration tower-lighting requirements; mirror washing; and vegetation management activities.

The Energy Commission staff understands that the project owner is currently conducting avian surveys according to an internally-developed protocol that was coordinated with the USFWS and CDFW, and featuring the point count method for passerine birds. At staff's May 6, 2013 workshop, the agreement was reached that the project owner would continue surveys during the spring according to this internal protocol (through June); however, the next round of surveys would adopt the REAT agencies' biologists' survey recommendations, featuring distance sampling techniques.

- Data Request 40. Please provide an avian survey plan to the Energy Commission staff that details the types of surveys and their methodologies already under implementation in 2012 and in spring 2013, as well as for future avian survey work efforts following REAT agency survey guidance. The REAT agencies expect that data collection will continue through permitting and until construction, when other avian survey guidance documents would be available (e.g. The Breeding Bird Conservation Strategy). While the Energy Commission staff acknowledges that the project owner has provided some information regarding surveys both in the May 6, 2013 workshop (relative to start and stop dates) and in the February 2013 Supplement No. 1 Petition to Amend (TN 69471), a comprehensive survey plan containing all pertinent information has yet to be received. All data collected by diurnal survey efforts would be used to inform the risk characterization necessary for development of a Bird and Bat Conservation Strategy (BBCS; formerly referred to as Avian and Bat Protection Plan) for these resources.
 - **a. General Species Occurrence**: Please conduct breeding season (15 February to 15 June), surveys to determine avifaunal species richness, distribution, and abundance including listed and special-status species, in the microphyll woodlands, creosote bush scrub and other habitats on and immediately adjacent to the project footprint (1.6 km),

using a distance sampling approach that conforms to widely accepted ornithological methods and allows for statistically defensible analysis. The surveyors should use line transect surveys of a standard length (e.g., 1 km) randomly distributed within the project area and sufficient to address all on-site habitats in proportion to their occurrence. At least two standard-length transects should also be established along/within microphyll woodland habitat (that is, the chosen drainages and starting points of these survey should be randomly determined but each survey route should be dedicated to a microphyll habitat corridor. Additional survey information gathered regularly in this manner during fall (2013) migration and winter (2013-2014) will contribute to a greater understanding of on-site avifauna to support staff analysis.

b. Migration Surveys: At the Palen site, spring migration extends from around 15 February through 1 June. Fall migration may start as early as 15 July (especially for southbound shorebirds) but is maximized in the time period between 15 August and 15 December. Qualified biologists should determine migration trends during the fall and 2013 spring migration and between 1 May and 1 June, as comprehensively as possible. Migration surveys are needed to identify avian migration and use patterns at and near the proposed project location for use in avian risk characterization associated with a project-specific BBCS. At a minimum, migration surveys should provide data suitable for quantitative analysis and cover the period when most of the major pulses or waves of migration occur during spring and fall migration (Bibby et al. 2000) and additional surveys should cover the breeding and wintering seasons.

All site-specific migration data collected prior to this request should be provided in a summary report that identifies survey dates; surveys hours and condition, and complete avian species list. Please compile pertinent migration data for the general area from peer-reviewed list-servs and groups (online resources, e.g., eBird, inlandcountybirds, etc), survey results from nearby projects, and other available databases.

c. Radar Studies: Please determine avian and bat migration pulses using radar. This method is useful particularly for evaluating nocturnal migration but also has benefit to document daytime movements. We encourage the project owner to examine historic weather radar data (e.g., NexRad data at the closest areas from which it is available) to document historic migration patterns through southern California deserts. We do not believe that at this late juncture the use of portable

radar equipment for spring 2013 surveys would be beneficial. We encourage the project owner to use portable technology to assess migration through the area in fall 2013 and winter/spring of 2014 in order to support the BBCS.

d. State-listed Species: Please determine the occurrence of the state-listed Gila woodpecker (Melanerpes uropygialis) and elf owl (Micrathene whitneyi) on-site and in the general vicinity of the project using focused surveys or through line transect surveys, if sufficient habitat for the species were considered. Status of the owl should be determined by means of focused surveys and should include the use of audio tape play-back. Elf owl breeding habitats are limited within the project area thus thorough coverage is expected.

Assessment of burrowing owl occurrence during the breeding season should include focused surveys adhering to California Burrowing Owl Consortium protocols (CBOC 1997). Results of burrowing owl surveys if previously conducted should be provided. At minimum Phase I and Phase II Burrowing Owl protocol components should be conducted between 15 April and 15 June and a report provided. Surveys for the burrowing owl should continue in winter 2013-2014 in order to support the BBCS.

Please provide the results of the migratory bird surveys to the Energy Commission staff within two weeks of their completion. The survey report should minimally include a detailed description of the methods used; list of surveyors and their qualifications (pre-approval of surveyors by the agencies is recommended) time, date, and weather conditions during surveys. Submittals of interim survey results to Energy Commission staff, BLM, USFWS, and CDFW and will be evaluated by the agencies as received.

Data Response 40a. <u>General Species Occurrence Surveys</u>

Survey methods for spring (8 April to 5 May) and summer (6 May to 30 June) avian surveys were provided to the CEC on April 14 and on June 6, respectively (Bloom Biological, Inc. [BBI], 2013 a, b) and are provided in Attachment DR40a-1. Survey methods for the fall of 2013 will be provided under separate cover.

Surveys incorporated the REAT guidance provided by the FWS on 15 March 2013. For summer and later surveys, they also incorporated clarifications relative to methods (point counts were a recommended method from REAT), extended distance beyond the project boundary (to 1.6 km), and the endpoint for mist-netting (Staff asked for 1 June, although FWS requested 15 June) from the 6 May extension of 1 May workshop.

Transects were spaced systematically to ensure that all different habitats, including microphyll woodland, were sampled roughly proportionally to their occurrence and that the entire project footprint and indirect effect area outside the footprint were sampled. Randomness was incorporated into the study design with the location of the point count stations on the transect lines.

Data Response 40b. <u>Migration Surveys</u>

Please see the survey methods for spring (8 April to 3 May) and summer (6 May to 30 June) migration surveys contained in Attachment DR 40a-1. Reports (see further discussion below) will include detailed methods and results, as well as an analysis of pertinent migration data from other sources.

Data Response 40c. Radar Studies

Radar technology will be included in the fall migration survey at PSEGS. Available radar data on migration patterns that are relevant to Chuckwalla Valley will be incorporated into the report analysis to support development of the BBCS.

Data Response 40d. <u>State-listed Species</u>

Elf Owl and Gila Woodpecker. Please see Palen Solar Scope of Work for Palen Solar Electric Generating System Summer 2013 Pre-Construction Avian Field Survey (BBI 2013b), docketed 6 June 2013 (Attachment DR 40a-1), for elf owl focused survey methods. The intensity of point count sampling in the microphyll woodland was determined by avian specialists in the field to be ample to detect Gila woodpeckers, should they be present. A total of 21 of the 120 point count stations in the spring surveys were in microphyll woodland on the project site and in the one-kilometer extension offsite. This equals 17.5% of the points, whereas microphyll woodland on the site only comprises approximately 145 acres, or 3.8% of the area. Including the one-kilometer indirect effects area surrounding the site, microphyll woodland comprises approximately 3% of the survey area.

Burrowing Owl. During the 17 April workshop, CDFW directed that burrowing owl surveys would be conducted per the CDFW (2012) guidance, not the 1993 CBOC or 1995 California Department of Fish and Game (CDFG) guidance. They would be conducted on the modified linear facilities. The *Desert Tortoise, Special-Status Wildlife Species, Special-Status Plants (Karl 2013a)*, docketed 21 May 2013 (Attachment DR 40d-1), provides details on the burrowing owl survey methods used at PSEGS in 2013 and the results of the first of the four required surveys. The final survey cannot be completed until after 15 June, but when completed, the results will be reported for all survey phases. In the interim, the following summarizes the three burrowing owl surveys to date:

- Survey 1 7 April: One adult burrowing owl was observed on the 400 m buffer transect east of the gen-tie, north of I-10. The owl flew from a stationary point. No burrow was found, despite a search. No burrows with owl sign were observed in the linear corridors.
- Survey 2 5 May: No owls were observed. No burrows with owl sign were observed in the linear corridors.
- Survey 3 25 May: One owl was seen 120 m east of the gas line, north of I-10.
 The owl flew from a stationary point. A search was made for the burrow, but none was found. No burrows with owl sign were observed in the linear corridors.

Ironwood Consulting, Inc. has also been continuously monitoring sensitive species during construction of the Desert Sunlight gen-tie in 2013. Their monitoring area included the PSEGS modified gen-tie north-south corridor. No burrowing owl burrows were observed (Attachment DR 40d-2).

In addition to the surveys on the modified linears, burrowing owls have been recorded, when observed, as part of the avian surveys on the solar site and buffer. Ten detections were recorded on the spring surveys (see *Palen Solar Scope of Work for Palen Solar Electric Generating System Spring 2013 Pre-Construction Avian Survey Results*, docketed 5 June 2013) (See Attachment DR 40d-3). The entire project site is burrowing owl habitat.

Surveys for the original Palen Solar Power Project were conducted in 2009 and 2010 (AECOM 2009, 2010). Two owl pairs, with juveniles, were observed in 2009 on the solar site; no owls were reported for the modified survey area in 2010. The 2009 report is attached to this data request (Attachment DR 40d–4). The figure for the 2010 survey was attached to Data Request 5 (Figure 5-6; Palen Solar Holdings, Inc. [PSH], 2013a).

Reports. Full reports will be provided as soon after surveys as possible. However, in an effort to provide Staff with information to support the Preliminary Staff Assessment (PSA), summaries of the methods and results of surveys completed to date have been submitted to Staff:

- Desert Tortoise, Special-Status Wildlife Species, Special-Status Plants (Karl 2013a) (See Attachment DR 40d-1)
- Spring Avian Surveys (BBI 2013c) (See Attachment DR 40d-3)
- Golden Eagle
 - o Winter 2013 surveys (BBI 2013d) (See Attachment DR 40d-5)
 - Spring 2013 nest results for early April surveys (BBI 2013e) (See Attachment DR 40d-6)

• State Jurisdictional Waters (Karl 2013b) (See Attachment DR 40d-7)

Final reports will be comprehensive and detailed. Avian surveyors' names and resumes were submitted to Staff, CDFW, BLM and FWS in e-mails from Alice Karl on April 23 and 25 (Karl 2013c). Names and resumes for rare plant and wildlife surveyors were submitted in Data Request Set 1 (PSH 2013b) and *Response to Workshop Queries* (PSH 2013c).

Data Request 41. Please provide quarterly results of these surveys to the Energy Commission staff, within two weeks of their completion. The survey reports should include a detailed description of the methodology; list of surveyors and their qualifications (pre-approval of surveyors by the agencies is recommended); time, date, and weather conditions during surveys; and species observed. Affidavits from biologists as to the veracity and completeness of the reports should be included. For all bird and bat surveys, we request that the project owner ensure that only experienced, qualified biologists are used to collect survey data from and around the site.

Data Response 41. <u>Survey Reports</u>

Please see the response for DR 40d.

BACKGROUND: GOLDEN EAGLE AND OTHER RAPTOR BREEDING SEASON SURVEYS

Several special status raptor species as well as two species of vulture may occur in the area and potentially be impacted by the project, including bald and golden eagles, ferruginous hawks, Swainson's hawks, elf owl, long eared owl, and turkey vultures. Uncommon species in this category may also occur (e.g., Harris's hawk, crested caracara, and black vulture).

The project owner has submitted winter 2012 golden eagle survey results, which were docketed on April 8, 2013 (TN 70242). The Palen Solar Holdings LLC's (PSH or project owner) Status Report 1 for Palen, docketed on March 29, 2013 (TN 70179), indicated that PSH will be conducting spring surveys for golden eagles on April 6, 7, and 8, 2013. It is our understanding that the project owner is currently conducting ongoing surveys for raptors and golden eagles and is closely coordinating with the REAT agencies' biologists. On March 11, 2013, staff published "USFWS Clarifications on Golden Eagle Surveys for the Proposed Palen Project" (TN 69897), as well as the "Interim Golden Eagle Technical Guidance: Inventory and Monitoring Protocols; and other Recommendations in Support of Golden Eagle Management and Permit Issuance" (TN 69896) (Pagel et al 2010). These documents were provided to the project owner for

implementation during the surveys. Staff has recommended the project owner provide further information on raptors and golden eagles in the project region to reflect the increased risk to these species from the use of power tower technology. This information will facilitate the analysis of risk to the species and may provide data for developing appropriate mitigation.

- Data Request 42. The project owner should continue with raptor surveys already agreed to with the REAT agencies' biologists and currently being conducted. The survey report should address the issue of golden eagle (GOEA) occurrence not only in the context of project area use and eagle survey results, but also with respect to the approximately ten-years of data that are available from the BLM for the area surrounding the project (Personal communication of Energy Commission biologists with Dr. Joel Pagel, USFWS biologist, during the Palen site visit, April 9, 2013) to provide information on the natural history of the species as well as its distribution in the region. Please provide information describing how the project will affect golden eagles taking into account the following topics:
 - a. Recent historical occurrence in the vicinity of the project area; area (please do not include specific reference to nest locations which can be described in terms of their distance to the center or edge of the project);
 - b. The species' natural history including:
 - I. Territory and home range size and characteristics in desert habitats,
 - II. Migration (both north- and southbound),
 - III. Movements of floaters that is, local as well as far ranging adults, sub-adults, and juveniles that do not have established territories especially the nature of their movements (e.g., are these movements random? Are they limited within a region? etc.), and potential distances that this species may travel especially in desert habitats.
 - c. The meta-population dynamics of this species to fill the niche of adults that have lost a mate; adults that have been forced to leave a breeding site due to disturbance; an individual that has been evicted by a competitor; individuals lost from a territory or a post-breeding home range; for example, through man-caused mortality (e.g., gunshot, electrocution, etc.); or natural causes (e.g., old age, sickness).

Data Response 42. Golden Eagles

Golden eagle and raptor surveys will continue as already agreed to and currently being conducted. Preliminary reports have been provided as results of survey efforts became available. The final report will include recent and historical data, as available, and analyses of relevant natural history factors, behavior, and population factors that will facilitate the development of a monitoring and mitigation program. At the 1 May workshop and in subsequent emails, we requested the ten years of data referenced as a personal communication from Dr. Pagel, but they have not yet been provided.

Data Request 43. Given that most large raptors seek out and utilize thermal air currents (Bildstein 2006) during migration (i.e., to facilitate long-distance movements) as well as daily (e.g., to warm as well as to initiate hunting behaviors), please describe thermal currents that are expected to occur in the vicinity of heliostat fields as well as in the immediate vicinity of collection towers and their implication to golden eagles as well as other large raptors both local and migrant.

Qualifications: For raptor surveys, "qualified biologist" means B.S. or higher degree in avian biology/ornithology/raptor ecology, prior experience with hawk migration counts (verifiable experience at known raptor migration location should be presented to Energy Commission staff, BLM and USFWS prior to commencing surveys), and prior experience with raptor species likely to occur in and near the project area. Observers should have demonstrated ability to identify raptors (eagles to age class) visually while in flight from distances of 200-1500 m.

Data Response 43. Thermal Currents

It is acknowledged that raptors use thermal currents as described. However, there is no literature available documenting raptor use of thermal currents associated with solar thermal facilities. For PSEGS, the reflection of the sunlight from heliostats to the tower simply does not create any heat until that sunlight is collected by a mass. In this case the mass is the solar receiver on top of the tower. The solar receiver is designed to absorb the sunlight and transfer its energy to water in the receiver as efficiently as possible. However, the transfer of the energy in the form of heat will result in some heat escaping to the atmosphere in the vicinity of the tower. It is possible that this escaped heat energy will rise and create an upward thermal current. Whether a raptor will sense, and or use such a thermal current is unknown at this time. There does not appear to be any reported observations of such use in the available literature.

Data Request 44. Please compile a comprehensive avian species list for the project site and general vicinity, including birds both likely to occur as regular resident, migrants, and rare migrants. Please incorporate migration data from the Salton Sea area. Please provide data regarding the risk to these species and information regarding expected elevations at which these species migrate.

Data Response 44. <u>Avian Species List</u>

Please see Data Response 40d and Attachment DR 40d-5. The comprehensive report on migratory birds will incorporate Salton Sea and other relevant migration data that will facilitate the development of a BBCS.

BACKGROUND: BAT SURVEYS

Given the region's importance to resident and migratory bat species, the REAT agencies' biologists are concerned that special-status bats may be impacted by construction and operation of the proposed project. To establish an environmental baseline for determining the project's potential for impacts to special-status bats, the agencies are requesting site specific survey data for the project area, necessary to augment the preliminary bat habitat assessment that was performed by the previous project applicant. Staff has recommended the project owner provide further information on bat use to reflect the increased risk to these species from collision, night-time lighting, and maintenance activities including mirror washing and vegetation management.

Additionally, the BLM's Proposed Northern & Eastern Colorado Desert Coordinated Management Plan (NECO) requires the project owner to perform surveys for bat roosts within one mile of the project site to aid in identification of impacts. As part of its analysis, staff will be responsible for determining the project's conformance with all applicable laws, ordinances, regulations, and standards (LORS), including the NECO plan.

Data Request 45. Please provide data on the type and distribution of bats in the project area. Bat survey data should be sufficient to provide adequate information to determine bat species richness and distribution in the proposed project area. This can be accomplished by deploying acoustical monitoring stations (e.g., Avisoft UltraSoundGate 116Hme CM16/CMPA (Avisoft Bioacoustics), Batcorder 2.0 (ecoObs), Batlogger (Elekon AG), or Songmeter SM2 BAT (Wildlife Acoustics) or AnaBat SD2 (Titley Scientific). Acoustical monitoring data should be collected continuously between 1 May and 1 October at no less than three separate stations

within the proposed project area. If the minimum three sites are chosen, we recommend that at least one station should be established in each of the following: 1) microphyll woodland 2) adjacent to or within agricultural areas, especially any accessible open water area, and 3) in the vicinity of a proposed tower location. The number of collection units deployed should be adequately spaced to provide representative maximum coverage of the project area. Specific detection mechanisms, locations, and heights should receive concurrence by appropriate agency personnel before surveys begin. Chosen technology and number of detectors should be able to assess airspace above and below the height of heliostats as well as at heights near the top of the collection tower(s).

Some systems have a useful range of no more than 100 meters above their placement locations. Larger bats with lower-frequency sonar are also difficult to assess because of a triad of issues: the heights at which they fly (i.e., the heights above or below sonar detectors), the low frequency of their sonar, and the fact that larger bats often occur naturally in lower population numbers. Larger desert-dwelling bats such as the western bonneted bat (Eumops perotis) and the Townsend's big-eared bat (Corynorhinus townsendii) often fly well above 100 meters whereas species such as the California leaf-nosed bat (Macrotus californicus) and pallid bat (Antrozous pallidus), both of which have excellent eyesight, are rarely detected in flight by this technology and may not rely much on sonar when in hunting mode. Sampling methods should be designed to ensure detection of these species should they occur in the project area. These should include:

- 1) Active visual and aural monitoring;
- 2) Complementary ultrasound monitoring (e.g., Echo Meter EM3+ (Wildlife Acoustics) or other computer-based real-time monitoring with visual screen output); and
- 3) Enhanced visual monitoring using infrared-sensing detectors (e.g., night vision glass and/or camera equipment),

The individual or individuals conducting these specialized studies must be capable not only of wav file analysis but also the behaviors and nighttime field identification of all of these large desert-dwelling bats. Verifiable experience using these methods should be presented to Energy Commission staff, the BLM and USFWS prior to commencing surveys.

Data Response 45. <u>Bat Surveys</u>

In the CEC license for the PSPP, Staff already analyzed impacts to special-status bat species for the 4,366-acre solar trough site and provided mitigation to offset those impacts (CEC 2010:50):

"The proposed Project site and reconfigured alternatives support foraging and roosting habitat for several special-status bat species. Roosting opportunities for bats are available in tree cavities, soil crevices and rock outcroppings primarily within dry desert wash woodland habitats. Bat roosts are known to occur in the Project area, including sites in the McCoy Mountains, Eagles Nest Mine (Little Maria Mountains) and Paymaster Mine. Bats likely utilize habitats throughout the Study Area for foraging, but forage more commonly in areas such as desert washes where water and insects are more abundant.

While the proposed Project and Reconfigured Alternatives 2 and 3 would be substantial contributors to the cumulative loss habitat for the NECO planning area biological resources, including habitat for special-status bats, we have adopted Conditions of Certification **BIO-12** and **BIO-21** to offset the cumulative loss of habitat for these species and correspondingly reduce impacts below the level of significance. (Ex. 301, p. C.2-112.)"

Staff suggests that the modified PSEGS would have "increased risk to these species from collision, night-time lighting, and maintenance activities including mirror washing and vegetation management," over the Approved Project (PSPP). However, many of the conditions identified by Staff are the same between the two projects:

- Both projects would require nighttime lighting during construction and operations for safety and security.
- Both have maintenance, including mirror washing. For PSPP, mirror washing would occur once to twice a week (CEC 2010:6); for PSEGS, mirror washing is anticipated to occur once a week (PSH 2012:2-30). For both projects, this would occur at night using a water truck driving on existing roads.
- Vehicle speeds are ≤25 mph on all project roads, including linear and site access roads, during construction, operations, and maintenance for both projects (AQ SC7 and BIO 8).
- While the heliostats will replace the solar troughs, there is no reason to believe
 that collisions would be more likely with one type of structure over the other. It
 is possible, however, that bats may mistake flat mirrors for water and be injured
 if they "dip" to drink. In laboratory experiments, four species of bats with
 distinctly different prey, habitat, and hunting styles confused flat, smooth plates

with still water bodies (Greif and Siemers 2010). The smooth plates, constructed of metal, plastic, or wood, reflected sound similarly to a water body. Heliostats and photovoltaic panels could reflect sound similarly. It is notable, however, that none of the 24 bats used in the experiment was reported to have been injured when they attempted to "drink" from the smooth plates. To accommodate potential mortality from the operation of PSEGS, mortality monitoring for bats were proposed for the BBCS in **BIO-16C** of the PSEGS *Supplement No. 1* (PSH 2013d).

It is unlikely that mowing vegetation would either increase foraging by bats, such that their site use would increase, or increase the potential for bats that might be using the site to be harmed. For PSEGS, the wash vegetation would be mowed to 12-18 inches, so insect activity, species richness, and biomass would be substantially diminished on the site due to the loss of this vegetation type. This loss of prey, plus the loss of treeroosting habitat would provide less opportunity for bats, so bat abundance should decrease even though the site would not be completely bladed. According to Dr. Patricia Brown, a recognized bat expert with extensive experience in the region of PSEGS, the primary impacts for bats will be the same for both towers and flat panels and will concern the removal of foraging habitat, with fewer bats being supported by the vegetation remaining at PSEGS. Moving vegetation to 12 inches would be functionally the same as blading all the vegetation - it would no longer be bat foraging habitat (P. Brown, pers. comm. to A. Karl 6 May 2013). Dr. Brown also stated that ground-roosting bats could be killed during construction and roosting habitat for ground roosting bats could be destroyed. For PSPP, any ground-roosting bats would be killed during the site grading process; whereas for PSEGS, fewer are likely to be killed during construction because surface disturbance would be less. Surface disturbance during initial mowing and for construction would still occur, but some ground and tree-roosting bats, if present, would likely escape injury and death due to the decreased level of surface disturbance. During all maintenance activities, vehicles would remain on the roads constructed during the initial site construction (i.e., drive zones and unpaved roads [PSH 2012:2-17]), so any ground-roosting bats in the residual habitat would unlikely be affected.

Despite the fact that Staff already analyzed and mitigated for special-status and other bat species in the approved project, and there are no realistic changes for PSEGS from the approved project that would suggest heightened or different impacts, a robust BBCS was proposed for development in *PSEGS Supplement No.1 to the Petition to Amend* (PSH 2013d). The BBCS would have a bat site use and behavior survey component, a mortality monitoring component, and an adaptive management component. Baseline bat surveys are being conducted in support of the BBCS. While not of the intensity that Staff requested, because the project changes don't provide adequate justification for such an intensive survey, PSH proposed to incorporate bat acoustic surveys into preconstruction monitoring (PSH 2013d:3-13). The REAT subsequently recommended that

site-specific information be collected using acoustical monitoring stations (e.g., Anabat, SonoBat), mist nests, or other detection mechanisms. Their recommendations further included that data be collected in microphyll woodlands and close to agricultural areas and be adequately spaced to provide maximum coverage of the project area; data should be collected for one year.

An initial bat inventory was conducted in early May 2013. Twelve (12) Anabat detectors were installed for three nights, programmed to come on one hour before dusk. Approximately a third of the detectors were sited in well-developed microphyll woodland, which is the preferred bat foraging habitat onsite, approximately a third near trees (e.g., palm orchard outside the northwestern boundary, riparian trees), and the last third in creosote bush scrub. Half of the units were equipped with a low frequency microphone and mounted on a roughly one-meter stake with an acoustic reflector. These microphones lack the audio range roll-off filters of standard bat detector microphones (all vendors) and enhance detection of audible range species, including low-frequency bats. For instance, in informal trials on mastiff bats (fundamental harmonic frequency range typically 6.5 to 22 kHz, commonly around 8-10 kHz), the number of detections increased by about four times relative to the standard microphone.

Pallid bats and California leaf-nosed bats, two of the three special-status species most likely to use the site, may be detected by this method although not consistently. These species largely hunt quietly by passive listening for prey movement and feeding sounds. According to Dr. Brown, detection may require a long-term acoustic set up, potentially with a parallel imaging system. However, she also states that pallid bats are ubiquitous across the desert, so presence should be assumed unless very intensive surveys fail to find them (pers. comm. to A. Karl). A maternity colony of pallid bats was detected in a mine in the southeastern corner of the Coxcomb Mountains (P. Brown, unpublished data). A year-round population (wintering and maternity) of California leaf-nosed bats was monitored in one of the Kaiser Mine adits in the Eagle Mountains between 1990 and 2000 (Brown 1996 and 2000), so they may forage over PSEGS, although there is substantial woodland foraging habitat between the Kaiser Mine and PSEGS. Results of the May 2013 surveys will be provided in a final report following the analysis of acoustic data. However, as previously stated, three special-status bat species are most likely to use the site – pallid bat, California leaf-nosed bat, and Townsend's big-eared bat. Relevant features of those bats as they pertain to the project site are discussed below. Other special-status bats known from the area (western mastiff bat [Eumops perotis californicus]) may pass through the area of the project, but are inhabitants of rocky areas, so would not be considered to be using the site. Some common bat species (e.g., canyon bat [Parastrellus hesperus] and California myotis [Myotis californicus]) could roost in crevices, burrow or tree cavities on site.

Pallid Bat (Antrozous pallidus; USFWS: None; BLM: Sensitive; CDFG: Species of Special Concern; WBWG: High Priority). The pallid bat is found in arid, lowelevation habitats from Mexico and the southwestern United States north through Oregon, Washington, and western Canada. It is found throughout most of California, where it is a yearlong resident. Pallid bats occupy a wide variety of habitats, including grasslands, shrublands, woodlands, and forests from sea level up through mixed conifer forests. This species is most common in open, dry habitats below 700 feet, with rocky areas for roosting (Findley et al. 1975. While rock and soil crevices and rodent burrows are common roosts (Brown and Berry 1998), roosts may also include mines, the attics of houses, eaves of barns, hollow trees, and abandoned adobe buildings (Davis and Schmidly 1994). Pallid bats feed on large arthropods (scorpions, beetles, moths) captured on or near the ground. Although this species may be found in the absence of rocky terrain or water (P. Brown, pers. comm. to A. Karl, Findley et al. 1975), water can enhance habitat due to the high proportion of protein in this insectivorous bat's diet and their high rates of evaporative water loss. Overall, accessible surface water, suitable maternity roost sites, and food may be important components of good habitat (Chung-MacCoubrey 1995). Pallid bats have been documented within 10 miles of PSEGS (County of Riverside and BLM 1996; CDFG 2009 in AECOM 2010), including a maternity colony in a mine in the southeastern corner of the Coxcomb Mountains, as well as in mines near Corn Springs in the Chuckawalla Mountains (P. Brown, unpublished data).

California Leaf-nosed Bat (*Macrotus californicus*; *USFWS: None; BLM: Sensitive; CDFG: Species of Special Concern; WBWG: High Priority; NECO: Special-status Species.*) California leaf-nosed bat occurs from southern Nevada, southern California, and Western Arizona southward through Baja California Sur and Sonora, Mexico (Barbour and Davis 1969). In California, it occupies the low-lying desert areas. It formerly inhabited the coastal basins of southern California, but populations have disappeared there due to loss of foraging habitat (Brown and Berry 2004, CDFG 1983). Occupied habitats include manmade structures (deserted mine tunnels, deserted buildings, bridges, culverts (Tatarian 2001), and caves (CDFG 1983). Temperature requirements may restrict roosts to mines with temperatures of approximately 80°F (BLM and CDFG 2002).

During surveys for the Eagle Mountain Landfill and Recycling Center, a population of California leaf-nosed bats was observed at Kaiser Mine between 1990 and 2000; none was found in any other locatable mines in the Eagle and Coxcomb Mountians (Brown 1996, 2000). In the first survey, over 100 male and female bats used the Kaiser Mine in the winter, with fewer bats (mainly males) in the summer. In 1996, a re-survey found fewer animals, but with summer maternity use and individuals in other locations near this adit (Brown 1996).

Townsend's Big-eared Bat (Corynorhinus townsendii; USFWS: None; BLM: Sensitive; CDFG: Species of Special Concern; WBWG: High Priority; NECO: Special-status Species). Townsend's big-eared bat is found throughout western North America, from British Columbia south to Oaxaca, Mexico. In California, C. t. townsendii inhabits the humid coastal regions of northern and central California and C. t. pallescens resides in the remainder of the State, including desert regions (Zeiner et al. 1990). The species is known from both mesic and desert habitats, coastal lowlands, cultivated valleys, and hills of mixed vegetation types (see review in Kunz and Martin, 1982). In California, it has been encountered in every natural community except alpine and subalpine zones (Zeiner et al. 1990). Elevation limits range from sea level to above 3,160 m (10,000 feet) (see review in Kunz and Martin 1982). Townsend's big-eared bat requires roosting, maternity, and hibernacula sites and may use separate sites for each behavior (Williams 1986, Zeiner et al. 1990). The species has been found in limestone and gypsum caves, lava tubes, and human-made structures such as mine tunnels and buildings (Williams 1986).

Evidence of Townsend's big-eared bat was found at an Eagle Mountain underground adit during 1990 surveys of the Eagle Mountain Landfill and Recycling Center (County of Riverside and BLM 1996). They were also verified roosting in the mines near Corn Springs in the Chuckawalla Mountains (P. Brown pers. comm. to A. Karl).

Regarding sampling heights for acoustic detectors, Dr. Rainey states (pers. comm. to A. Karl) that no extant equipment would be expected to detect even a moderately loud aerially hunting bat calling at 350 feet. The reason is that atmospheric attenuation increases with frequency markedly above the audible. To sample acoustically in a volume relevant to 750 feet (i.e., the SRSG), detector microphones would need to be deployed in a similarly tall tower, such as a met tower. Since bats are largely crepuscular and nocturnal, there are unlikely to be impacts near the SRSG and therefore no need to monitor near the 750 foot level.

Drs. Patricia Brown and William Rainey conducted the surveys. Dr. Brown is highly recognized as one of, if not the, premier bat biologists in the southwestern deserts. Relative to the specific vicinity of PSEGS, she has extensive experience in the Chuckwalla Valley and east to the Colorado River. Dr. Rainey is an international bat biologist and an acoustics specialist. Their resumes are contained in Attachment DR 45-1.

Data Request 46. Please perform an assessment of bat roost habitat, including identification of suitable day roosts, hibernacula, and maternity roosts, within the project area and vicinity. Please provide an illustration that identifies suitable roost habitat by the aforementioned types on a figure with the proposed project components and areas of proposed ground disturbance or vegetation/structure removal.

Data Response 46. Bat Roost Habitat

The Approved Project was authorized to be completely bladed, such that there would be no habitat left onsite at all. The modified project will be partially bladed, but primarily mowed low, to the point that there will be no foraging habitat remaining. Functionally, there will be no differences between the projects. What roosting habitat remains will be so compromised by the lack of foraging potential that use for roosting purposes will very likely be highly diminished. Roosting habitat is not limited, whereas foraging habitat is.

In the project vicinity, roosting habitat is abundant. Ground-roosting species (pallid bat is the only special-status ground-roosting species) have unlimited opportunity for ground-roosting, as they roost in rodent burrows and soil crevices. The other potential special-status species that may currently forage over the site all roost in rocks, mines and/or structures, so would only commute to the site from the nearby mountains or structures.

According to Dr. Brown, hibernacula are not an issue that is relevant for either pallid or leaf-nosed bats. California leaf-nosed bats do not hibernate, but instead remain active year round in mines that are geothermally heated and warmer than the outside annual mean temperature. Pallid bats have reduced activity during the winter months and it is likely that they simply move deeper into their normal roosting burrows or rock crevices. Individual, torpid pallid bats could be found accidentally during the overturning of wood and soil, but this would be a chance encounter. There is no systematic way to identify a pallid bat overwintering site. Diurnal roosts, including maternity colonies, are hidden in crevices in rocks, trees (i.e., dead ironwood) or holes in the earth and are almost impossible to discover without radio-telemetry.

Data Request 47. Please provide a description of movement patterns of bats between roost sites in the vicinity of the project and foraging habitat within the project area, including a map depicting suitable roosts and foraging habitat. Also, provide an assessment of the project's impacts to these movement patterns for special-status bats.

Data Response 47. <u>Bat Movement Patterns</u>

Movement patterns of bats in the project area are unknown. Further, the project's effects on surrounding bat behavior are also unknown, although bats are known to fly

across open areas (e.g., PSEGS after mowing) to forage in suitable habitat (e.g., woodland offsite).

Data Request 48. Please coordinate with BLM to determine an appropriate survey methodology to detect bat roosts within one mile of the project site, as required per NECO. Submit the survey guidance to the Energy Commission, as well as a final survey report documenting the results of the surveys.

Data Response 48. <u>Bat Survey Methodology</u>

Because there is no systematic method to look for bat roosts in trees or soil crevices, which are widespread across the site, the only practical focused surveys would be in bridges or buildings. During a one–day PSPP survey in 2009, biologists searched washes for bat roosts onsite and in buffer areas. One bat was observed wedged into the underside of a bridge crossing Corn Springs Road; the bat was unidentified to species but several features excluded it from any of the special-status species that potentially use the site. No other roosts were observed. During wildlife surveys of the Modified Linear Facilities in Spring 2013, freeway underpasses within one mile of the modified linears were described relative to conditions and examined for any sign of bat roosting. No evidence of bat roosts was observed, which is not surprising as all bridges were smooth cement and provided minimal to negligible roosting habitat.

BACKGROUND: EFFECTS OF POWER TOWERS ON FLIGHTED SPECIES

The potential exists for large solar thermal projects to impact flighted species: insects, bats, and birds. Avian species are protected under the Migratory Bird Treaty Act and Bald and Golden Eagle Protection Act and special status bats are of concern. REAT agencies' biologists have expressed concern about the potential adverse effects of concentrating solar projects to insects, birds, bats, and eagles due to direct injury and mortality from exposure to elevated solar flux generated over the heliostat field and collisions with project features, as well as the potential for substantial indirect impacts due to loss of 3,794 acres of habitat. Staff needs to analyze the potential for direct and indirect impacts to birds and bats from the project's two 750-foot tall power towers, the energy flux that will be emitted from the towers, and the resultant changes in radiant heat, light, and humidity. Staff requests additional data regarding expected energy flux and radiant heat to be emitted by the proposed towers and over the mirror field and the resultant changes in humidity that may affect habitat.

Data Request 49. Please provide an analysis of the impacts to desert dry wash woodland and other vegetation in the project area from reflected/concentrated solar energy flux and the potential resultant changes in light, heat, and humidity.

Data Response 49. Impacts to Desert Dry Wash Woodland from solar flux

Please see the response to DR 43. Any residual heat will rise from the SRSG, but the SRSG will not reflect heat back onto the surrounding landscape – therefore no impacts.

Data Request 50. Please provide a description of the safety requirements for workers at active power tower facilities, including personal protective equipment, safety distances, and temporal and spatial restrictions when working in the heliostat fields, applicable to biologists conducting surveys or doing other work within the site.

Data Response 50. Worker Safety Requirements

Conditions of Certification Worker Safety 1 and Worker Safety 2 require the PSEGS owner to submit to the CPM for review and approval a Project Construction Safety Health Program and a Project Operations Safety Health Program. Both programs provide information for personal protective equipment and injury and illness prevention for all workers, including biologists.

Data Request 51. Please compile a comprehensive insect species list for the project site and general vicinity, including insects both likely to occur as residents and migrants, with an emphasis on identifying special status insects. Please provide data regarding the risk to these species and information regarding expected elevations at which these species migrate. For pollinator species, please identify common host plants; indicate if the plants occur onsite.

Data Response 51. <u>Insect Species</u>

Insects are indisputably important components of ecosystems. Among other functions, they are the basic prey of many mammal and bird species and important pollinators for common and rare plants. Staff previously analyzed impacts to insects that might occur in the adjacent and onsite dunes. As stated in the Staff Assessment for the PSPP: "Staff's analysis of impacts to sand dunes was based on the assumption that sand dunes are unique and threatened habitat types that support unique and threatened species, whether or not those species had been formally petitioned for threatened or endangered status, or identified on the site" (CEC 2010b: C.2-236). Staff did not make any statements about insects in other habitats on the site, suggesting that their analysis did not reveal critical issues.

In addition to Staff's previous analysis, the following analysis from Dr. Jennifer Pretare is provided. Dr. Pretare completed a similar insect-related CEC request for the Rio Mesa SEGS, which was proposed to have identical technology and tower heights to PSEGS (URS 2012). Excerpts from her memorandum are provided below:

- 1. "Increased flux from the proposed Project will only occur near the top of the two solar towers approximately 750 feet above the ground surface. Flux will occur primarily during the daytime, with very little flux at dawn and dusk, and none at night. Flux is unlikely to have a significant effect on indigenous insects, pollinators, and/or migrating butterflies for several reasons. Most insects are nocturnal (active at night) and have a limited distance from which they may be attracted to bright light. Nocturnal insect activity has likely evolved to reduce the risk of bird predation, reduce stress due to hot daytime conditions, and reduce energy expenditure needed to move through thermals and wind. Additionally, most insect movement is associated with localized plant-to-plant dispersal near the ground rather than long-distance flight at higher elevations where flux will occur. The number of daytime migratory species of insects is low, and these species have a very rare chance of occurring on the project site where and when they may encounter flux."
- 2. "Insects may exhibit a range of behavioral responses when exposed to high levels of light. Insects may hover around, ignore, circle around, crash into, change direction, or fly past high-level light sources (Frank 2006). The distance from which insects can "see" light, and therefore be attracted to it, is limited. The attraction of insects to sources of light depends on the level of background illumination (Eisenbeis 2006). ...(D)uring the daytime, background illumination will be relatively high in the project area... The Project will not provide nighttime illumination so the difference between light levels of background illumination and flux will be low."
- 3. "Migratory insects occurring above the flight boundary layer (FBL) are likely the only ones with potential to occur in the zone of flux. The FBL is described as is a layer of air, extending variable distance upwards from the ground, where wind speed is lower than the insect's flight speed (Taylor 1974). The FBL is typically only a few meters high for small, weak-flying insects but will vary with conditions of the climate (Taylor 1974). Very occasionally, the FBL may be hundreds of meters high (Riley 1975 in Wood 2007). However, this high elevation flight is not thought to be very common due to the lack of moisture, low temperatures, and lack of food sources. At 750 feet elevation, control over the direction of flight may be limited and is likely linked to atmospheric conditions. Insects at this elevation are more likely directed by the prevailing wind conditions, rather than active flight. Insects occurring in the flux zone are likely to occur only sporadically, rather than being systematically attracted to light caused by flux."

4. In summary: "Flux at the Rio Mesa Project site is unlikely to have a significant effect on indigenous insects, pollinators, and/or migrating butterflies. Flux will occur primarily during the daytime, with very little flux at dawn and dusk, and none at night. Most insects are nocturnal and have a limited distance from which they may be attracted to bright light. Daytime flux will not create a strong attractant for butterflies and other insects as it will occur at higher elevations than most insect movement and background illumination will be relatively high. Because daytime flux will not create a strong attractant for butterflies and other insects, they are expected to remain in their native habitat near the ground. Additionally, at 750 feet elevation, insects are not able to control their direction of flight and are more likely directed by the prevailing wind conditions, rather than active flight. Therefore, insects occurring in the flux zone are likely to occur only sporadically, and flux is not anticipated to significantly affect indigenous insects at the Rio Mesa Project site."

Information on insects and pollinators present in the specific Modified Project vicinity is lacking. Despite a search for reliable, comprehensive data, none was found. Even the California Natural Diversity Data Base (CNDDB) has no invertebrates in their data base for the Project site and vicinity (CNDDB 2013), a testament to a general lack of documented information for insects in this portion of Chuckwalla Valley.

BACKGROUND: VEGETATION MANAGEMENT

The project owner has proposed use of a "low impact design", which would leave the site primarily vegetated, and confine most on-site project travel to improved roads with dust control. However, in many instances this vegetation would be subject to mowing. While there are obvious advantages to leaving vegetation relatively intact, the long-term viability of desert species subject to a mowing regime has yet to be demonstrated. Under the approved project, a weed management plan was required as a condition of certification. However, the site was originally intended to be graded and maintained free of vegetation. Staff is requesting this information to gain an understanding of how the current project, which intends to leave most of the vegetation on site intact, albeit subject to mowing, may cause increased risk to vegetation from the spread of invasive weeds.

Data Request 52. Please provide documentation demonstrating the viability and persistence of native desert vegetation subject to routine mowing. Please provide staff the data including information on ability of onsite soils to support plant regrowth under the proposed disturbance regimes, the levels of essential growth nutrients in the soil at the site, and how these nutrients may be affected over the 30 year life of the project.

Data Response 52. <u>Mowing and Vegetation Management</u>

The purpose of mowing the site (Modified Project) versus complete planning and blading (Approved Project) is to maintain soil stability and natural hydrology, not to protect vegetation or wildlife habitat. Mowing is anticipated to substantially decrease the quality of the vegetation as well as the value of the site for wildlife. Nevertheless, Applicant will mitigate for impacts to vegetation and wildlife habitat as if the site is bladed and all vegetation eradicated, as identified in the Approved Project and *PSEGS Supplement No. 1 to the Petition to Amend* (COCs **BIO 12, 19, 20,** AND **21**). Effects to hydrology would be substantially less, but the Applicant assumes that the surface and vegetation disturbance within the Modified Project footprint will substantially compromise the value of the habitat in the onsite drainages. Therefore, the Applicant will mitigate for State-jurisdictional waters onsite according to COC **BIO-12** for the Approved Project. The potential benefits and drawbacks of leaving vegetation on the site were previously discussed in Applicant's Data Response 5 (PSH 2013a) and the reader is requested to review that document for the discussion of these factors.

The site will be mowed as often as necessary, but probably no more than every two years in most places because of the paucity of species on most of the site and their currently low stature; mowing in the channels of former woodland may occur more often for some riparian species. Mowing would be accomplished by hand-operated equipment (e.g., weed-wackers, hand pruners), not by wheeled mowing machines (e.g., tractor mowers).

Surveys for PSPP in 2009 and 2010 found no invasive species on the Cal-IPC List (High, Moderate, and Limited [Cal-IPC 2009]) occurring in high concentrations (AECOM 2009, 2010). Four non-native species are documented to grow on the site: Saharan mustard (*Brassica tournefortii*), Russian thistle (*Salsola tragus [=kali]*), Mediterranean grass (*Schismus barbatus*), and tamarisk (*Tamarix spp.*). (A fifth, *Festuca sp.*, was not identified to species and at least one species of *Festuca*, *F. octoflora*, is a native.) AECOM (2009:45) reported the first three as "prevalent throughout the Sonoran creosote bush scrub, especially across he southern half of the BRSA." They modified the statement later in the document to state that Russian thistle is present in the dune areas (AECOM 2009:81), suggesting that it largely grows in the dunes on the site, not throughout the site. (This is confirmed by personal observation of A. Karl.)

Soil disturbance during construction, as well as heliostat washing, has the potential to exacerbate existing weed populations. A draft PSEGS Weed Management Plan was docketed on 28 May (PSH 2013e) for the purposes of minimizing the spread and introduction of weeds. Weeds will be controlled through the use of manual means. While potentially challenging and labor-intensive in a field of heliostats, the Project owners are committed to following the guidance and requirements of the Weed Management Plan, once approved.

Because the purpose of mowing is not to manage vegetation to ensure the health of the plant communities onsite, no Vegetation Management Plan should be required.

Data Request 53. Prepare a Vegetation Management Plan and submit it to Energy Commission staff. The Vegetation Management Plan should incorporate the life history and physiological constraints and growth patterns as determined in the previous task. The Vegetation Management Plan should include the mowing plan, and must include a framework for management of the site in the event of loss of native vegetation, significant declines in vegetative vigor, or a successional shift to predominately weedy species across the project site.

Data Response 53. <u>Vegetation Management Plan</u>

See Response to Data Request 52.

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CULTURAL RESOURCES (54-57)

BUILT-ENVIRONMENT INVENTORY

BACKGROUND

As previously stated in Data Requests Set 2, the addition of two, 750-foot solar power towers to the licensed project stands to significantly increase the visibility of the project across that portion of Chuckwalla Valley, relative to the visibility of the project if it had been built as originally licensed. Due to this significant increase in visibility, staff needs additional built-environment data in order to develop that portion of the cultural resources analysis for the preliminary staff assessment. As stated in Data Requests Set 2, the revised Project Area of Analysis (PAA) will include all visible areas within a maximum of 15 miles away from the project area boundary. Known historic-age buildings and structures are located in the town of Desert Center located approximately 8 miles west of the project site. The setting of this town will be significantly altered with the introduction of two 750-foot solar power towers. In order to determine if significant impact(s) will occur, all historic-age buildings and structures need to be evaluated for California Register of Historical Resources (CRHR) eligibility by professionals meeting the Secretary of the Interior Standards.

Data Request 54. Please provide a list of all historic-age (i.e., 50 years old or older) buildings and structures within the PAA including the following information:

- a. Address/other location data
- b. Type of building/structure (e.g., single-family residence, commercial building, transmission line, etc.)
- c. Date of construction including the source of this information

Data Response 54. <u>Historic Literature Search</u>

This work is currently underway and will be submitted under separate cover when complete.

Data Request 55. Please provide a map, of no less than a 1:24,000 scale, depicting all of the historic-age buildings and structures within the PAA.

Data Response 55. <u>Historic Properties Map</u>

This work is currently underway and will be submitted under separate cover when complete.

Data Request 56. Please provide a district evaluation of the community of Desert Center following the Office of Historic Preservation's Instructions for Recording Historical Resources (March 1995). Please provide a map depicting the boundary with a narrative justification for the boundary based on the period of significance. All extant buildings, structures, and features (e.g., landscaping, roads, etc.) shall be shown on a sketch map and labeled as contributing or non-contributing to the district.

Data Response 56. <u>Desert Center</u>

This work is currently underway and will be submitted under separate cover when complete.

Data Request 57. Please provide an evaluation of all historic-age building(s) and structure(s) within the PAA that have not been previously evaluated and/or were not included in the Desert Center evaluation requested above. All evaluations must be prepared using the Office of Historic Preservation's Instructions for Recording Historical Resources (March 1995) and recorded on the appropriate DPR form(s).

Data Response 57. <u>Historic Properties Evaluation</u>

This work is currently underway and will be submitted under separate cover when complete.

TRAFFIC AND TRANSPORTATION (58-69)

BACKGROUND

The ability of light to cause injury to the retina has been shown both clinically and experimentally. Light can result in retinal damage through photothermal, photomechanical, and photochemical mechanisms.

Photothermal damage is the physical damage to the retina that can occur from high levels of irradiance. Irradiance is the density of radiation on a given surface. Well established standards are provided by the American National Standards Institute (ANSI, Z136.1-2000) for protection of the human eye from photic exposure.

Photomechanical damage is mediated by an acoustic process and is associated with high energy pulses of extremely short duration, such as a laser exposure. Photomechanical damage mechanisms are not relevant to the Palen Solar Electric Generating System (PSEGS).

Photochemical damage is associated with both long-duration exposure times as well as lower-wavelength (higher-energy) light exposure. While retina pigment epithelium (RPE) and the neurosensory retina are protected from light-induced exposure by the absorption profile of the surrounding ocular structures (e.g., cornea, crystalline lens, macular pigments) as well as through retinal photoreceptor outer segment regeneration, photic injury is still quite possible due to photochemical retinal light toxicity mechanisms. Photochemical injury is both dose dependent and cumulative in nature. The time dependent nature is such that it has been estimated that the half-life (1/e) cumulative dose exposure effect is on the order of 30 days. This has significant implications for observers that spend a significant amount of time in proximity to the high luminance solar field in the additional presence of high ambient (existing) luminance characteristic of a desert environment.

As retinal injury can be caused by exposure to otherwise innocuous visible light, there appears to be some critical dose or threshold at which exposure becomes injurious. The safe exposure times for common ophthalmic instruments (e.g., fundal photography) has been reported in the literature and supports the concept of a critical threshold dose necessary for injury.

Data Request 58. Please address the potential for photothermal retinal damage to motorists on I-10 given the direct exposure effects of the solar field/ tower exposure levels.

Data Response 58. <u>Photothermal Retinal Effects to I-10 Motorists</u>

The measurement of retinal irradiance (Er) provides a means to evaluate the potential photothermal impact on an observer, whether on or off site. In the case of motorists on the I-10 (off-site, south of the project), there are two primary potential photothermal sources associated with the project:

- 1) SRSG (top of the power tower); and
- 2) Heliostats North portion of Solar Field (southern heliostats cannot achieve the angle necessary to face the I-10 corridor).

The calculation of Er takes under consideration the size of the lighted object, the intensity in W/m2 (flux) at the observer location, and the parameter of the human eye.

The intensity of light emitted from the SRSG is 70W/m2. As a conservative approach, the intensity at the observer's location can be assumed to equal the intensity at the source. (For the sake of comparison, the intensity of visible light from the sun is 80,000 W/m2 at the retina and the Maximum Permitted Exposure at the retina is 1,000 W/m2, assuming continuous exposure.)

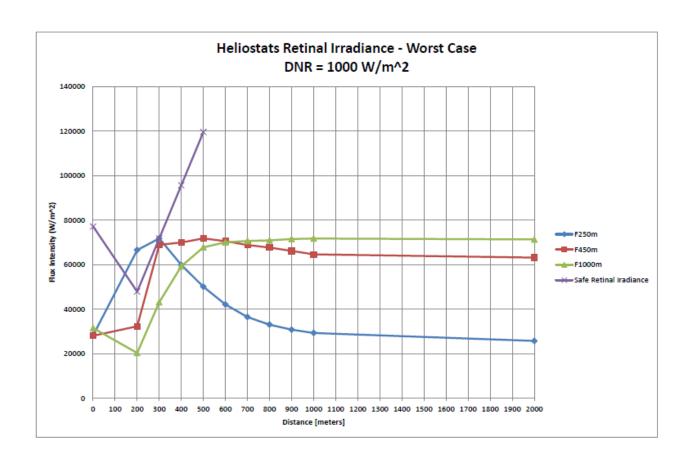
The other important variable in assessing the risk to a motorist on I-10 is the angle subtended by the SRSG to the observer's eye. The subtended angle (in radians) is calculated as the ratio between the diameter of the receiver and the distance of the viewer.

The shortest distance between a PSEGS SRSG and a passing I-10 motorist is 4,265 feet, or 1,300 meters (4,265 feet). The SRSG diameter is approximately 100 feet. Therefore, the subtended angle is calculated as follows: 100/4.265 = 0.023-radians = 23 mili-radians = 1.33 degrees.

When an illuminated object subtends an angle of 23 mili-radians to the viewer's eye, the retinal irradiance threshold for damage is greater than 40,000 W/m2. The threshold for an after-image potential is larger than 200 W/m² (Ho, 2011).

Thus, since the light intensity from the SRSG is no greater than 70 W/m2 at any point of observation along I-10, there is no potential for photothermal damage from the SRSG to I-10 motorists.

The same calculation for retinal irradiance from the SRSG can be used for heliostats. Using a ray tracing method, the amount of light concentration at given distances from a given heliostat can be calculated. Different heliostats may have different focal lengths. The light concentration at a given distance is dependent upon the heliostat focal length. In the chart below, retinal irradiance is plotted for three different heliostat focal lengths, as well as the safe retinal irradiance for increasing distances.



The safe irradiance gets higher as the subtended angle of the heliostat gets smaller, which increases with distance as illustrated above. The safe irradiance is so large after 500 meters (a640 feet) that it is not tracked within the above illustration.

At distances less than 300 meters (984 feet) from certain heliostats there is the potential for photothermal risk, but the heliostats theoretically capable of reflecting light to I-10 are located more than 1,000 meters (3,281 feet) from I-10 traffic. Thus, there is no possibility for photothermal retinal damage to I-10 motorists from the solar field.

Also note that on the ground itself, it is not possible to look at a heliostat at distance of 200 meters (656 feet), as it is blocked by closer heliostats. The only risk is when standing on the tower, and this is an operational hazard that will be mitigated with appropriate safety procedures and guidelines for plan personnel.

Data Request 59. Please address the potential for photochemical retinal damage to motorists on I-10 given the cumulative exposure effects of the combined terrestrial ambient and solar field/ tower exposure levels.

Data Response 59. <u>Cumulative Photochemical Retinal Effects to I-10 Motorists</u>

With respect to photochemical injury, staff states "the time dependent nature is such that it has been estimated that the half-life (1/e) cumulative dose exposure effect is on the order of 30 days." Staff has provided no reference for this very long half-life estimation, nor have we been able to find one.

Staff also states that "this has significant implications for observers that spend a significant amount of time in proximity to the high luminance solar field in the additional presence of high ambient (existing) luminance characteristic of a desert environment." This implication is contradicted by the known effect of pupil dilation. When the human eye is wholly or partially dark adapted, the pupils are dilated and hence, admit more light to the retina. Given that the solar field and SRSG are only operational during daylight hours, all I-10 motorist observers of the facility will be in a photopic state (wherein the retina receives 1/50th of the light available in an otherwise scotopic state). Scientific literature commonly suggests that photochemical damage is far less likely to occur if the recipient retina is in a photopic state. (Byrens, 1958; Miller, 196; Terisi, 1968 & Berman, 1993.)

Further, we are unable to quantify the incremental potential for photochemical retinal damage to motorists on I-10 from the solar field and/or tower, in light of the fact that exposure to the incremental sources, i.e., the solar field and/or tower, comprises brief (from seconds to a maximum of a few minutes on each journey) exposure, generally at an indirect viewing angle and a small visual angle. We were unable to find any scientific literature studying the cumulative effective of a small number of spaced-apart, short, low-intensity exposures. The overall cumulative effect appears to be negligible when compared with the potential effects from ocular exposure to terrestrial ambient light during extensive periods of driving in the corridor, if done regularly in daylight hours without adequate mitigation such as tinted vehicle windows and/or sunglasses. Moreover, it is worth noting that any light reflected toward motorists by heliostats or an SRSG will have substantially lower proportions of UV light than are found in ambient sunlight, further reducing any incremental potential for photochemical damage.

BACKGROUND

Glint and glare from heliostat reflections could produce harmful effects on human observers. During plant operation, the probability of heliostat reflections directly intercepting pedestrians, motorists, and airborne observers would be influenced by heliostat positioning, including heliostats in standby positions, and heliostat transition strategies used.

An aviation concern is aircraft exposure to glint and glare produced by heliostats in the standby position, where they would be reflecting upward toward the sky, by heliostats in transition to or from standby, and by any heliostats creating reflected energy spillage or leakage past the tower margins. These situations could potentially result in glint and or glare visual impacts to pilots.

Staff recognizes that the heliostats are focused to maximize the incident energy on the solar receiver steam generator (SRSG). For heliostats in transition or in the standby positions, this generally results in a beam divergence beyond the SRSG. This beam divergence, or "diluted reflected energy", reduces the incident energy of direct heliostat reflections to potential airborne observers, as a function of range to the towers.

Applicant Response to Background.

The first line of staff's background suggests that 'glint and glare from heliostat reflections can produce harmful effects on human observers.' Applicant respectfully refutes this claim by virtue of the following facts:

- 1) Sandia researchers at Solar One in Dagget CA determined, with the aid of helicopter based instruments, that safe retinal irradiance limits were not exceeded when outside 240 meters (787 feet) of the solar field. (Brumleve, 1977 and 1984). 3rd party human observers do not have the ability to get within 240 meters (787 feet) of a heliostat outside of the project boundary, whether it be by air, foot or vehicle, the confines of the facility and the relative angle of the heliostats make it impossible for a 3rd party observer to get within 250 meters (820 feet) of a heliostat on the reflector side.
- 2) Human observers on foot near the immediate perimeter of the project footprint will not be able to be recipients of random heliostat beams due to the negative angle required to focus a sunbeam on point lower than the mirror itself (as well as blocked by the neighboring heliostats).
- 3) At close range, (i.e. for a human observer within the facility) the heliostat reflection cannot be considered harmful insofar that each heliostat is equivalent of a single sun (i.e. the potential harmful effect is no more harmful than the sun above).
- 4) The procedures set forth in the heliostat positioning plan (discussed further in the response to DR-61 and proposed as a Condition of Certification in the Petition For Amendment and modified with supplemental filings) will limit the ability for heliostats to effect areas of concern outside the project footprint.

Data Request 60. Please provide an estimate of the number of heliostats in the standby position for nominal or average operation conditions and for the condition in which the number of heliostats in standby is at a maximum (presumably a midday full sun).

Data Response 60. <u>Heliostat Standby Position Estimates</u>

The number of heliostats in stand-by position depends on the solar radiation for specific operating demands and atmospheric conditions (including wind, cloud coverage and the circumstantial operating limitations of the solar field).

- During normal operation at a full midday sun, the maximum amount of heliostats in stand-by is approximately 20% of the field.

The field is sized (optimized) so that the average operating condition requires one hundred percent heliostat participation. Given that varying conditions will always interact to limit the full operation of the solar field, it is reasonable to assume that a normal, non-peak operating condition will typically include up to approximately 3-5% of heliostats in standby.

Data Request 61. Please provide a discussion of the heliostat positioning algorithms to address optimum path selection for minimizing reflected sunrays on all unintended areas (airborne, ground-based, and any forbidden areas, including the intermittent presence of aircraft for known flight paths, such as military training routes VR-296, VR-1265, VR-1268, and IR-218, or unknown flight paths).

Data Response 61. <u>Heliostat Positioning and Military Training Routes</u>

The Palen Heliostat Postioning Plan will address the project's ability to build in exclusion zones (restricted areas) and beam control techniques that are recommended to minimize the potential hazards from single and multiple heliostat beams during operation. At Ivanpah SEGS, this is accomplished by programming the heliostat control system to move only along prescribed arcs. Additionally, Sandia researchers have, in the past, used video techniques during helicopter flyovers and at ground level to determine retinal irradiance, image size, and receiver brightness for the 10 MWe Solar One thermal central receiver pilot plant near Dagget, California. (Brumlevee 1977 & 1984.)

Aside from the ability to purposefully control the heliostats to minimize visual impacts to 'forbidden areas', it is important to note that Sandia researchers found that retinal irradiance from single heliostat beams exceeded the safe limits only within a short range

(up to 40 meters [131 feet]) within the focal distance of the heliostat. This is true for both the Solar One facility and the Ivanpah facility. For heliostats with focal distances greater than 270 meters (886 feet), safe retinal limits were never exceeded (Ho, 2011). Therefore, the levels of irradiance that exceed the safe limit are only associated with heliostats that have a focal distance of 270 meters (886 feet) or less and the limits are only exceeded within ±20 meters (66 feet) of that focal length. In other words, the maximum distance where the limits may be exceeded from the PSEGS is 290 meters, or 951 feet, even when assuming worst case conditions for all parameters. Thus, levels of irradiance may only be exceeded within 951 feet of the facility's heliostats that have focal lengths of less than 270 meters (886 feet), which, in all cases, would be not conflict with the known flight paths (including military training routes VR-296, VR-1265, VR-1268) and unknown flight paths, based on VFR flight rules.

PSH has docketed correspondence with the Department of Defense as evidence of the low potential for conflict with military training routes.

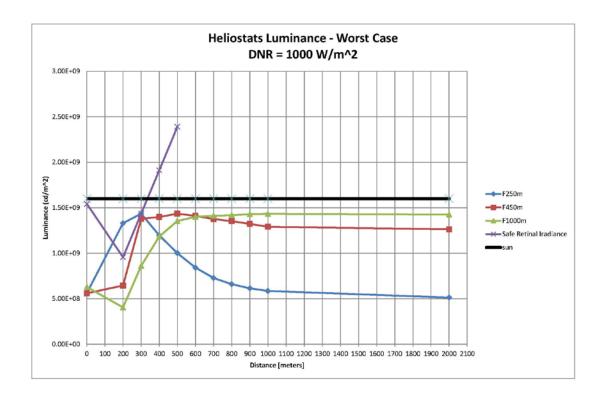
The heliostats have two drives that allow them to rotate along two degrees of freedom (azimuth and elevation). The azimuthal range is the full rotation along the vertical axis. The elevation range is from 0 (vertical mirrors, heliostat pointing horizontally) to 90 degrees (horizontal mirrors, heliostat pointing to the zenith). Heliostat movements cannot stray from these arcs.

The Palen Heliostat Positioning Plan will prescribe a near constant monitoring of heliostat performance. Because proper alignment of the heliostats is essential to maximizing project operations, verification of proper alignment using the project's Beam Characterization System (BCS) is essential for project maintenance. Calibration of the heliostat positioning system will occur nightly, using the installed BCS, and personnel will be trained to report any malfunction. The same QA/QC procedures that applied to other phases of the project will also be applied to maintenance activities, including heliostat position calibration. Even if one or more heliostats are out of alignment due to equipment failure or any other reason, the potential for two or more heliostats aligning to focus multiple beams on a given point is still exceedingly remote. The high degree of quality assurance during project design, construction, testing and maintenance will ensure that failures will be minimized. The heliostats will be positioned using a highly advanced proprietary control system with safety interlocks that prevent positioning heliostats outside a very limited range of motion. The chances of multiple failures occurring such that multiple beams are focused on a single point away from the SPTs are extremely low; the chances that any viewer will be located at that point for sufficient duration to create a hazard are even more remote.

Data Request 62. Please provide the luminance (cd/m2) as a function of range to tower for a direct reflection from a single heliostat (with representative focal lengths) in the standby position for distances of 1, 2, 5 and 10 miles.

Data Response 62. <u>Standby Position Heliostat Luminance</u>

The following chart shows luminance versus distance for heliostats with three different focal lengths. (1 mile = 1,609 meters.)



At all distances, the luminance from all heliostats is smaller than the luminance of the sun and therefore does not pose an excessive visual disturbance. Furthermore, the reflected flux is expected to be even lower than the values shown in the graph due to imperfect mirror reflectance, cosine effect and attenuation of the reflected radiation by the air. Note that since most of the surrounding heliostats will be reflecting the sky back to an observer flying overhead, the relevant background luminance is that of the desert sky, making no greater contrast than that of the sun with the sky background. A succession of heliostats should not cause any further disturbance than that of a constant observer and heliostat for the duration of the flight over the solar field.

Data Request 63. Please provide details about planned mirror washing activities. If mirror washing would occur during the day, please include the time of day, the position of the mirrors during washing, the number of mirrors to be washed simultaneously, and details of any potential glint and glare impacts from the mirror washing.

Data Response 63. Glint and Glare During Mirror Washing Activities

For the most part, the majority of mirror washing activities are planned to be performed at night, with a small minority of the washing activities to be performed in the daytime during plant operation.

Night Washing Methodology Description:

Washing activities at night will be executed by a mobile mirror washing machine. The mobile mirror washing machine will travel along the ring roads and, in a stationary position, use a remote boom to access all heliostats within a 100 foot radius of the mobile mirror washing machine. Each heliostat within this 100 foot wash radius will be remotely oriented to face toward the boom of mobile the washing machine. In terms of elevation, the heliostat will be oriented in one of two ways, depending on its range from the washing machine (i.e., 1) a vertical position (like in sleep orientation); or 2) horizontal (wind stow) position). Of course there will be no glint and glare during night washing activities.

Day Washing Methodology Description:

Washing activities in the day will also be executed by a mobile mirror washing machine. Similar to the night washing methodology, the mobile mirror washing machine will travel along the ring roads and, in a stationary position, use a remote boom to access all heliostats within a 100 foot radius of the mobile mirror washing machine.

Different than the night washing methodologies, the day washing methodology will require that all heliostats within the 100 foot radius will be constrained in one of two ways:

- 1) Directional Orientation Heliostats will be limited in terms of direction so that all heliostats remain facing, generally, toward the tower (and not toward the boundary of the project).
- 2) Elevation Depending on its range and relative direction from the washing machine, each heliostat will be limited to a vertical position (like in sleep orientation) or a horizontal (wind stow) position.

As demonstrated above in response to DRs 61 and 62, the washing methodologies are contemplated so that no stranded or residual glint or glare will come from these activities.

BACKGROUND

Glint and glare from heliostat mirror arrays and SRSGs may cause viewers to experience transient visual impairment, distraction, and disruption. Therefore, the potential for glint and glare to distract or cause temporary visual impairment to motorists, cyclists, pedestrians, and pilots needs to be addressed.

Additionally, the impact of glare from the SRSGs needs to be considered within the context of a spatially extended emissive source. An SRSG is visually larger than the sun at a considerable range of viewing distances.

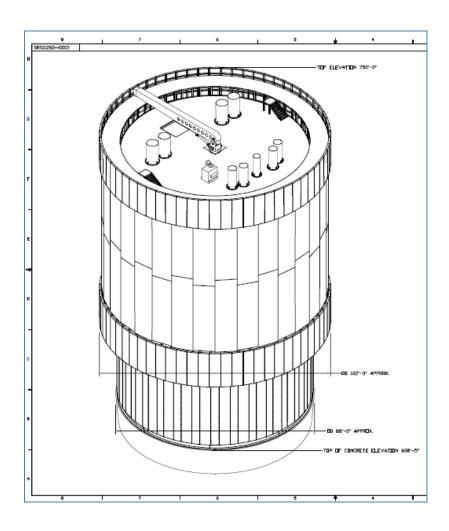
Applicant's Response to Background:

In the background section, Staff states that "additionally, the impact of glare from the SRSGs needs to be considered within the context of a spatially extended emissive source." With respect to visible light, the SRSG is not an emissive source of light but rather is a reflective source of light. Almost all energy emitted from the SRSGs will be in the non-visible infrared range of the spectrum. Although some small amounts of radiation in the top of the visible light spectrum is emitted in accordance with Planck's Law, especially at the higher temperatures of the superheater panels, this incremental visible light is not discernible by the naked eye and therefore when evaluating potential impacts to viewers it is not appropriate to use emissivity for any calculations.

Data Request 64. Please provide the dimensions of the active region of the SRSGs, i.e., the physical size in height and width of the SRSG region being illuminated under normal operating conditions.

Data Response 64. <u>Dimensions of Active Region of the SRGs</u>

The panel's height is approximately 68 feet and the diameter is about 100 feet. These dimensions result in an active SRSG area of about 21,370 square feet.



Data Request 65. For the SRSG regions being illuminated under normal operating conditions please provide the visual angle dimensions in degrees (the sizes) of the SRSG regions as a function of viewing distance from the ground to both of the SRSGs for 0.5, 1, 2, 5 and 10 miles.

Data Request 65. <u>Visual Angle Dimensions of SRSG Illumination</u>

The visual angle (in radians) is simply the ratio between the diameter of the receiver and the distance in meters of the viewer. For example, at distance 3km (1.86 miles) from the receiver the visual angle 10 mili-radians (0.01 radians), which is about the visual angle of the sun. The following table shows:

Table 65-1 Visual Angles of SRSG Illumination								
Distance	Visual Angle (in milliradians, equal to diameter of object / distance to viewer x 1,000)	Visual Angle (in degrees, equal to milliradians x 0.057)	Comments					
0.5 miles	37 mili-radians	2.119 degrees	There is no point outside of the boundary of the project where the tower is within this proximity.					
1 miles	18 mili-radians	1.031 degrees	This range, for I-10 motorists, would require the driver to be purposefully looking 90 degrees from their natural heading.					
2 miles	9.3 mili-radians (just less than the visual angle of the sun	0.532 degrees	Equivalent to a 5 cm light bulb from 5.3m away					
5 miles	3.7 mili-radians	0.211 degrees	Equivalent to a 5 cm light bulb from 13.5m away					
10 miles	1.8 mili-radians	0.103 degrees	Barely visible depending on atmospheric conditions.					

Data Request 66. For the SRSG region being illuminated under normal operating conditions, please provide the maximum luminance and the luminance under normal operating conditions in candelas per meter squared (cd/m2) as a function of viewing distance from the ground to the SRSG for 0.5, 1, 2, 5 and 10 miles. Please provide this for each tower for eight viewing directions starting from the north and differing by 45 degree increments (i.e., N, NE, E, SE, S, SW, W and NW).

Data Response 66. <u>SRSG Luminance Estimates</u>

The luminance of the receiver is less than 10⁶ cd/m² in any viewing direction. Luminance (cd/m²) does not decrease much with distance and thus a reasonable conservative assumption is that luminance stays constant. (Note: The sun luminance at noon is 1.6*10⁹ cd/m²).

A conservative case is that luminance remains constant with distance (absent the very real attenuation effects of the variable atmospheric conditions). The size of the SRSG decreases with distance and this is known as the subtended angle. Although luminance is constant with distance it is the decrease of image size on the retina that determines the visual impact to the receptor (as demonstrated in the response to DR-65). Thus the

worst case maximum luminance is constant at 70 W/m2 in all directions from all distances.

Data Request 67. Please provide the luminance of representative sky backgrounds in the region of the SRSGs for these viewing conditions.

Data Response 67. <u>Background Sky Luminance Estimates</u>

The luminance of the sun at noon is 1.6*10^9 cd/m^2.

The luminance of the clear sky at noon is about 5,000-10,000 candelas/m^2.

In clear-sky conditions, Perez et al (reference attached) measured mean luminance values of 7,155 cd/m2 in the sun-facing region of the sky, 2,757 cd/m2 in the sky region north of the sun, 3,199 cd/m2 in the east- and west-of-sun regions, and 3,040 cd/m2 in the zenithal region. Thus it seems reasonable to use a representative value of 3,000 cd/m2 in the region of the SRSG for clear-sky viewing conditions except when the sun is in the region of the SRSG (from the observer's perspective) in which case the luminance (of the sky, not the sun) peaks above 7,000 cd/m2. Expectedly, values were higher on bright overcast days and lower on dark overcast days, neither of which is relevant to SRSG operation.

Data Request 68. Please provide the minimum viewing distance from motorists on Interstate 10 to both Unit 1 and 2 towers.

Data Response 68. <u>I-10 Motorist Minimum Tower Viewing Distances</u>

Unit 1: (Northwestern Tower)

Minimum viewing distance from I-10 is 1,980 meters (6,496 feet, 1.23 miles)

Unit2: (Southeastern Tower)

- Minimum Viewing distance from I-10 is 1,350 meters (4,429 feet, 0.84 miles)

Data Request 69. Please address the potential for motorists at nominal viewing distances from the project to experience apparent glare and visual disruption from the SRSGs and heliostats, given the incident luminous energy predicted to be experienced by observers.

Data Response 69. <u>I-10 Motorists Potential For Glare and Visual Interruption</u>

Potential for glare and visual disruption from the SRSGs in close proximity to the project is greatly reduced by the fact that motorists on I-10 would have to swivel their heads

from the road to see it. Motorists approaching from the west will notice the project from a great distance, and then will see the two SRSGs leave their useful field of view at a distance of several miles from the SRSGs, a distance at which the brightness of the SRSGs is interesting but not distracting. First-time motorists may turn their heads to see the project from a closer vantage point, but this is true regardless of whether the SRSGs are in operation. Motorists approaching the project from the east will also see the project from a great distance, eliminating any chance that the SRSGs will be a sudden source of glare or visual disruption. At close proximity (about a mile at the closest point as noted above), motorists will not choose to stare at the SRSGs for the same instinctive reason that they do not stare at the sun, despite the fact that the SRSG is several orders of magnitude less bright than the sun.

Westbound motorists in the morning were more likely to be affected by sunlight glinting off the parabolic trough mirrors of the Approved Project. Unlike parabolic trough collectors, PSEGS heliostats do not face the sun except when the sun and the SRSG are at the same angle from the heliostat's perspective, in which case the heliostats are pointing into the sky and not towards the highway. At all other times that they are tracking the sun, the heliostats face a point halfway between the sun and the SRSG – in other words, they never point at the highway because they are reflecting even the lowest morning or evening sun at the SRSG which is hundreds of feet in the air. The only exception are mirrors in a 90-degree stow or clean position, but the only such mirrors allowed to point in the direction of the highway are those which are completely blocked from the motorists' view by thousands of other heliostats in the portion of the solar field closer to the highway. In general, the potential for glare and visual disruption from heliostats is substantially less than it was for the parabolic trough collectors originally permitted for the site.

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WASTE MANAGEMENT (70-72)

BACKGROUND

The staff analysis for the approved Palen project was published December 15, 2010. The Phase I Environmental Site Assessment (ESA) presented in the Application for Certification for the Approved project was completed in May 2009. At the time the 2009 ESA was completed, portions of the site to be developed included federal and private property and the site was larger than the proposed project.

In 2002, The EPA was charged under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) to establish by rule the "generally accepted good commercial and customary standards and practices" that had to be followed by a party seeking immunity from property contamination liability. The American Society for Testing and Materials (ASTM) established method ASTM 1527-05 (Standard Practice for Environmental Site Assessments), to provide procedures for conducting investigations to adequately evaluate the potential for a site to contain contamination. The EPA adopted the ASTM procedures and, after November 1, 2006, buyers and sellers of real estate were compelled to comply with the requirements of the Environmental Protection Agency's "All Appropriate Inquiry Rule," or follow the standards set forth in the ASTM E1527-05 Phase I Environmental Site Assessment Process, to satisfy the statutory requirements for conducting all appropriate inquiries.

In ASTM E 1527-05, provisions for updating an existing ESA are provided. According to ASTM E 1527-05, Section 4.6, Continued Viability of Environmental Site Assessment and Section 6 User's Responsibility, the ESA is required to be updated within a year if a new project is proposed for the property on which the initial ESA was prepared.

Specifically, Section 4.6 of ASTM E 1527 states:

4.6 Continued Viability of Environmental Site Assessment—

Subject to Section 4.8, an environmental site assessment meeting or exceeding this practice and completed less than 180 days prior to the date of acquisition of the property or (for transactions not involving an acquisition) the date of the intended transaction is presumed to be valid. If within this period the assessment will be used by a different user than the user for whom the assessment was originally prepared, the subsequent user must also satisfy the User's Responsibilities in Section 6.

Subject to Section 4.8 and the User's Responsibilities set forth in Section 6, an environmental site assessment meeting or exceeding this practice and for which the information was collected or updated within one year prior to the date of acquisition of the property or (for transactions not involving an acquisition) the date of the intended transaction may be used provided that the following components of the

inquiries were conducted or updated within 180 days of the date of purchase or the date of the intended transaction:

- I. interviews with owners, operators, and occupants;
- II. searches for recorded environmental cleanup liens;
- III. reviews of federal, tribal, state, and local government records;
- IV. visual inspections of the property and of adjoining properties; and
- V. the declaration by the environmental professional responsible for the assessment or update.

In summary ASTM E1527-05 states:

An ESA meeting or exceeding E 1527 is presumed to be valid if "completed less than 180 days prior to the date of acquisition."

- 1. An ESA for which information was collected or updated within one year prior to the date of acquisition may be used as long as the following components were collected or updated within 180 days of the date of intended acquisition: interviews with owners, operators and occupants; searches for environmental cleanup liens; review of federal, tribal, state and local government records; visual inspections of the subject property and adjacent properties; a declaration by the environmental professional (EP) for the assessment or update.
- 2. A Phase I ESA that is older than one year may be used as a "prior assessment" reference. The older <u>historical</u> data is history (unchangeable) and therefore it is valid and can be used. This includes such data as fire insurance maps, historical topos, historical street directories and aerial photos.

The Phase I Environmental Site Assessment prepared for the approved project has not been updated in over five years.

Data Request 70. In accordance with requirements stated in ASTM E 1527-05, please provide an updated Phase I ESA that describes the proposed project site, existing site conditions and identify any new Recognized Environmental Conditions in accordance with the previously indicated testing standard.

Data Response 70. <u>Updated Phase I ESA</u>

As discussed at the Staff Workshop on May 7, 2013, PSH agreed to update the records search portion of the Phase I ESA. This information is provided in Attachment DR 70-1. Because the property is on BLM land and BLM has not authorized the use of the site since the time of the original licensing, PSH believes the updated records search is sufficient for Staff to conduct its CEQA-equivalent analysis. A full Phase I ESA, meeting the requirements outlined above, will be performed prior to the close of financing.

BACKGROUND

The configuration and technology of the proposed project is altered from the approved project; therefore, the quantities of and composition of expected waste will be different from the approved project. Staff will review the estimates of waste generated by the proposed project and will compare those volumes/weights to that acknowledged in the approved project. In addition, staff will compare the differences in waste composition generated by each of the two technologies, verify that the quantity and composition of waste is not burdensome to Riverside County, and verify that construction waste will be recycled in accordance with Title 24, CCR, Part 11 2010 Green Building Standards Code (CalGreen). Staff will also verify that there is sufficient landfill capacity in Riverside County for disposal of project wastes.

In order for staff to provide the analyses described above, please provide,

Data Request 71. a table that lists construction non-hazardous and hazardous waste totals, include type of waste, origin, composition, estimated quantity and volume of each waste, classification, and disposal methods and,

Data Response 71. <u>Construction Waste Table</u>

See Attachment DR 71-1.

Data Request 72. a table that lists operation non-hazardous and hazardous waste totals include type of waste, origin, composition, estimated quantity and volume of each waste, classification and disposal methods.

Data Response 72. Operations Waste Table

See Attachment DR 72-1.

ATTACHMENT DR 40a-1 SPRING AND SUMMER AVIAN SURVEY METHODS (BBI)



April 1, 2013

Mr. Charles Turlinski Director – Project Development BrightSource Energy, Inc.

[via email]

SUBJECT: Scope of work for conducting spring 2013 pre-construction avian field surveys for the Palen Solar

Project located in the Chuckwalla Valley, Riverside County, California

Dear Mr. Turlinski:

Bloom Biological Inc. (BBI) proposes the following scope of work for conducting spring 2013 pre-construction avian field surveys for the Palen Solar Project located in the Chuckwalla Valley, Riverside County, California. The study methods proposed herein are consistent with recommendations for Tier 3 field studies described in the U.S. Fish and Wildlife Service Land-Based Wind Energy Guidelines, as well as March 2013 recommendations set forth by the Renewable Energy Action Team (REAT) agencies specifically for the Palen Solar Project in light of recent changes to the project design. This proposal addresses studies to be conducted between the present and early May, or the end of the spring migratory season of 2013. Surveys will begin as soon as practical after contract approval (ideally by April 8) and lasting for four full weeks after the initiation of surveying (ending by May 3). This proposal does not address the radar studies designed to monitor use of the site and surrounding areas by migratory birds and bats. A separate proposal for radar work will be forthcoming. A cost proposal is attached as Attachment A.

TASKS

Task 1. Site Reconnaissance Survey

Description

BBI will conduct a single site reconnaissance survey to establish and mark count locations for the surveys described in this scope.

Staffing

Two biologists and one 8 hour field day.

Timeline

Immediately upon proposal approval.

Task 2. Bird Use (and Large Bird Migration) Counts

Description

BBI will conduct Bird Use Count (BUC) surveys at six observation points beginning as soon as practical following contract approval (ideally, April 8) and lasting for 4 full weeks after initiation of surveys (ending May 3). These surveys are designed primarily to evaluate the use of the Project footprint and surrounding areas by medium to

large resident and migratory birds, including Golden Eagles (Aquila chrysaetos) and other raptors, though small bird activity will also be documented.

Each observation point will be manned by a qualified avian biologist for 8 hours per day, 4 days per week. The starting time for surveys will be rotated among the days of each week such that approximately ¼ of the 8-hour long surveys will begin at sunrise, ½ will begin 4 hours prior to mid-day and ¼ will begin 8 hours before sunset; thus ensuring that all stations are surveyed at all times of day, but with the focus being on the midday periods when raptors are expected to be most active. In addition, biologists will rotate between observation points to ensure that all points are surveyed at various times of day equally by different biologists within a given season.

The six BUC observation points will be distributed across an area encompassing the project boundary plus a 0.6-mile (1 km) buffer, with a minimum of 1 mile (1.6 km) between each observation point. Two of the BUC stations will be situated within 220 yards (200 meters) of the proposed solar tower sites for the project. Though bird detections will be recorded at all distances, quantitative data will be recorded for detections occurring within a 0.5-mile (800-meter) radius of BUC observation points. Under this design, the total area surveyed from the six BUC observation points (4.7 mi² or 12.1 km²) comprises 31.5% of the area occupied by the project boundary plus a 0.6 mile (1 km) buffer (14.8 mi² or 38.34 km²).

During BUC surveys, each biologist will remain at the station for 8 consecutive hours (weather permitting) and record the following information for all birds detected regardless of their size or distance from the observer: time, observation point ID, species, distance and direction from surveyor, estimated height above ground level (agl), flight direction and number of individuals (if in moving in a group). Additional information regarding flight movements will be collected for all raptors, and other targets larger than an American Crow (*Corvus brachyrhynchos*) that pass within 0.5 miles (800 meters) of the observer, including the following (as pertains to behaviors within this distance range only): flight types observed, minimum height (agl), maximum height (agl), total number of minutes spent flying at heights of less than the height of the proposed towers. Using rangefinders and landmarks, all surveyors will be trained in estimating distances across the range expected for these surveys and will be required to consistently estimate distances to within 10% of the true distance before surveys begin. Surveyors will also be provided with a rangefinder when conducting surveys, so they can measure the distances to various landmarks around each station and use the landmarks accordingly in distance estimates.

Staffing

Four weeks of spring BUC surveys: five biologists work 8-hour field days (plus travel time to and from site) for 5 days per week (one of the five biologist works only 4 days per week)

Timeline

Spring 2013 BUC Surveys: April 8 – May 3 (or for 4 weeks after surveys begin).

Task 3. Small Bird Counts

Description

BBI will conduct Small Bird Count (SBC) surveys at 120 point count stations beginning as soon as practical following contract approval (ideally, April 8) and lasting for 4 full weeks after initiation of surveys (ending May 3) during spring 2013. SBC surveys will be complemented with mist-net surveys (Task 4). SBC surveys are designed primarily to evaluate the use of the Project footprint and surrounding areas by resident and migrant passerine and other small and medium-sized birds, though larger birds and raptors will be recorded as well.

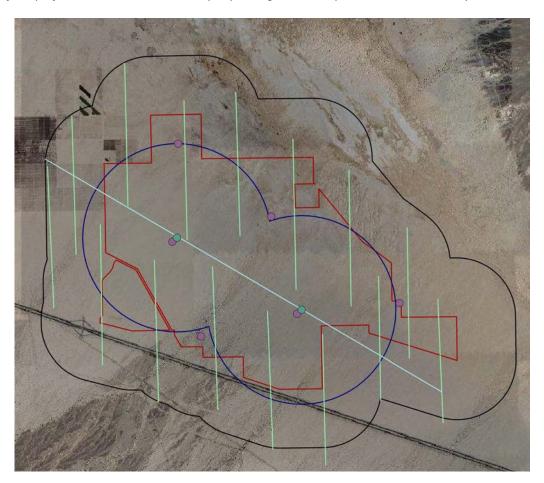
All SBC surveys will be conducted between sunrise and 6 hours after sunrise, to ensure the maximum probability of detecting target species, as this is the most active time of day for passerine birds, particularly in desert habitats.



The order in which stations are surveyed will be rotated weekly such that each station is surveyed at different times of the morning. In addition, biologists will rotate between observation points to ensure that all points are surveyed equally by different biologists within a given season.

The 120 point count stations will be arranged along 15 transects, each approximately 2600 yards (2400 meters) in length, with 8 point count stations spaced 270-380 yards (250-350 meters) apart. Transects will alternate, running to the north and to the south of an imaginary east to west line across the midsection of the Project site. Transects will be dispersed across an area encompassing the project boundary, plus a 0.6-mile (1-km) buffer around it, as shown in the depiction below. Transects will be spaced roughly evenly along the east to west axis through the site, though their precise locations along this axis will be chosen so as to ensure that different habitat types are sampled in proportion to their occurrence. This will ensure that approximately 50-60% of stations will be within the area of direct impact from construction and 40-50% will be situated at various distances from the direct impact zone and within the area of potential indirect impacts. No point count station will be situated more than 1 kilometer from an area of direct (permanent) impact. Under this design, the total area surveyed from the 120 SBC stations comprises at least 9.8% (1.5 mi² or 3.8 km²) of the area occupied by the project boundary and 0.6 mile (1 km) buffer (14.8 mi² or 38.34 km²). This conservatively assumes a survey radius of 110 yards (100 meters) around each station, though many detections will likely occur at greater distances.

Figure 1: Hypothetical example of positions for 15 north-south transects along an east-west line through the midsection of the project. Actual locations will vary depending on landscape, habitat and other key variables.



The 120 SBC point count stations will be distributed relatively evenly across the site in an effort to provide coverage of different habitat types (strata) in proportion to their frequency of occurrence. Avian abundance and diversity among stations may ultimately be analyzed in relation to the following variables: distance from proposed tower locations, vegetation/habitat type, and distance from habitats that correlate with greater prey abundance (e.g., Sonoran desert wash, other areas with greater moisture or vegetation density).

During SBC surveys, a qualified avian biologist will begin noting birds detected by sight and sound immediately after arriving at the station and for 10 minutes thereafter. Biologists will also record all sightings of potential Golden Eagle prey, such as small mammals, during the 10-minute surveys and while walking along transects between point count stations. Though bird of all sizes and at all distances from the observer will be recorded, an emphasis will be placed on detecting birds within 110 yards (100 meters) of the observer. For each bird detected, biologists will record the following information: species, sex (if known), age (if known), distance from station, direction from station (W, NW, N, etc.), the minimum and maximum heights reached above ground, total number of minutes (rounded up to the nearest whole minute) observed flying between ground level and the height of the proposed towers and mode of detection (visual, song, call, other). Anecdotal observations indicating breeding activity will also be noted, including whether the birds were observed carrying nesting material or food, or attending nests or fledglings.

Using rangefinders and landmarks, all surveyors will be trained in estimating distances across the range expected for these surveys and will be required to consistently estimate distances to within 10% of the true distance before surveys begin. Surveyors will also be provided with a rangefinder when conducting surveys, so they can identify the distances to various landmarks around each station and use the landmarks accordingly in distance estimates.

Staffing

Four weeks of spring SBC surveys: Three biologists work 6-hour field days (plus travel time to and from site) for 3 days per week.

Timeline

Spring 2013 SBC Surveys: April 8 – May 3 (or for 4 weeks after surveys begin).

Task 4. Mist Net Surveys

Description

No single method for evaluating avian diversity and abundance comes without the potential for systematic shortcomings. Point count surveys are often used for such evaluations because they can provide relatively robust estimates in different habitat types, and because distance methods can be used to control for detection probabilities when deriving density estimates. Indeed, the point count methodology implemented for SBC surveys in the present study provides the single most effective method for the task at hand, but one shortcoming is that some species or individuals may go undetected because they are elusive or move quickly through the survey area. This is potentially problematic during migration, when species may move through the site unnoticed, or without pausing and providing adequate time for identification. Additionally, and perhaps even more importantly, the SBC surveys described in Task 3 are designed to provide a baseline for the future evaluation of any changes in avian diversity and abundance within direct (permanent) impact areas from pre to post-construction. Once heliostats have been constructed within the majority of these point count stations, it is possible that the ability to detect birds, particularly those that forage and are otherwise found near the ground, will be lower within these areas because visual detection is obstructed by the presence of large heliostats, even though the mowed vegetation will enhance visibility over baseline conditions. This could lead to an underestimation of post-construction bird densities, and potentially to misleading results when compared with pre-construction surveys where heliostats were absent and detectability of these species was higher.



For these reasons it is critical to supplement SBC point count surveys with a secondary method that increases the probability of detecting inconspicuous birds, and which is not susceptible to differences in detectability such as those outlined above. BBI proposes to address this concern by implementing mist net surveys at a proportion of stations where point counts will also be conducted. Estimates of avian diversity and abundance from mist net surveys can be compared directly with those achieved during point count surveys at the same stations, and across stations to determine if the two methods provide comparable results. Perhaps even more importantly, the estimates from mist netting during pre-construction will provide a reliable baseline dataset for comparison with post-construction mist net and point count surveys after mirrors have been built on site.

Mist net surveys will be conducted at 24 of the 120 SBC point count stations; 12 of the 24 stations will be located within the direct (permanent) disturbance area and 12 will be located within the indirect disturbance area, at various distances from the direct disturbance area. The 24 point count stations where mist netting occurs will be arranged in 8 clusters of 3 adjacent stations on the same transect. The three points within a cluster will be surveyed on the same day, to help minimize distance traveled between active nets. Four of these clusters will be located on transects within the permanent disturbance area (one each in the northeast, southeast, northwest and southwest quadrants) and four will be arranged along transects in the indirect disturbance area (again one in each quadrant).

From April 1 to April 30, three biologists will work 2 days per week, 8 hours per day, to survey all 24 mist net stations once. Each day, the three biologists will work together to survey three adjacent point count stations, operating four standard 2.6 x 12 meter mist nets per station. Each week 6 stations (2 clusters of 3 stations) will be surveyed for one day, allowing all 24 stations to be surveyed between April 1 and April 30. The four nets will be arranged, and oriented, to the north, east, south and west of each observation point. Nets will remain open from sunrise until 6 hours after sunrise daily, unless there is precipitation, the temperature is outside of the range of 40-100 degrees Fahrenheit, or if wind conditions cause the net trammels to billow out to the extent that they become highly visible and ineffective in catching birds.

All birds captured in nets will be removed carefully, banded with a unique aluminum Fish and Wildlife Service leg band and released. Information recorded for all captures will include: station, date, time, bander's name, band number, molt, level of stored fat, and feather/plumage characteristics and where possible, age and sex.

Staffing

Four weeks of spring mist net surveys: Three biologists work 8-hour field days (plus travel time to and from site) for 2 days per week.

Timeline

Spring 2013 Mist Net Surveys: April 8 – May 3 (or for 4 weeks after surveys begin).



If you have any questions or comments about this proposal, please call Marcus C. England at (949) 272-0905.

Sincerely,

BLOOM BIOLOGICAL, INC.

Marcus C. England Vice President

Michael Kuehn, Ph.D.

Senior Biologist/Statistical Analyst





June 6, 2013

California Energy Commission Dockets Unit 1516 Ninth Street Sacramento, CA 95814-5512

Subject: SCOPE OF WORK FOR PSEGS SUMMER 2013 PRE-CONSTRUCTION

AVIAN FIELD SURVEYS

PALEN SOLAR ELECTRIC GENERATING SYSTEM

DOCKET NO. (09-AFC-7C)

Enclosed for filing with the California Energy Commission is the electronic version of **SCOPE OF WORK FOR PSEGS SUMMER 2013 PRE-CONSTRUCTION AVIAN FIELD SURVEYS**, for the Palen Solar Electric Generating System (09-AFC-7C).

Sincerely,

Marie Fleming



May 8, 2013

Mr. Charles Turlinski Director – Project Development BrightSource Energy, Inc.

[via email]

SUBJECT: Scope of work for conducting summer 2013 pre-construction avian field surveys for the Palen

Solar Project located in the Chuckwalla Valley, Riverside County, California

Dear Mr. Turlinski:

Bloom Biological Inc. (BBI) proposes the following scope of work for conducting summer 2013 pre-construction avian field surveys for the Palen Solar Project located in the Chuckwalla Valley, Riverside County, California. The study methods proposed herein are based on recommendations for Tier 3 field studies described in the U.S. Fish and Wildlife Service Land-Based Wind Energy Guidelines, as well as recent guidance provided by the Renewable Energy Action Team (REAT) agencies specifically for the Palen Solar Project. This proposal addresses studies to be conducted between early May and mid-August. Surveys will begin as soon as practical after contract approval (ideally by May 6) and will last until August 15. Studies to monitor nocturnal use of the study area by birds and bats through the use of radar will be included in the fall 2013 proposal. A cost proposal is attached as Attachment A.

TASKS

Task 1. Bird Use (and Large Bird Migration) Counts

Description

BBI will conduct Bird Use Count (BUC) surveys at six observation points from May 6 until August 15. These surveys are designed primarily to evaluate the use of the Project footprint and surrounding areas by medium to large resident and migratory birds, including Golden Eagles (Aquila chrysaetos) and other raptors, though small bird activity will also be documented.

From May 6 to June 1 (4 weeks in early summer) each observation point will be surveyed by a qualified avian biologist for 8 hours per day, one day per week. From June 1 through August 15th (10 weeks in late summer) each observation point will be surveyed by a qualified avian biologist for 4 hours per day, once every two weeks. Within each of these periods, the starting time for surveys will be rotated regularly such that ¼ of the surveys at each station will begin at sunrise, ½ will begin 4 hours prior to mid-day and ¼ will begin 8 hours before sunset; thus ensuring that all stations are surveyed at all times of day, but with the focus being on the midday periods when raptors are expected to be most active. In addition, if the surveys are conducted by more than one biologist, an effort will be made to balance surveying among stations by different biologists.

The six BUC observation points are distributed across an area encompassing the project boundary plus a 0.6-mile (1 km) buffer, with a minimum of 1 mile (1.6 km) between each observation point, as shown below (Figure 1). Two of the BUC stations are situated within 220 yards (200 meters) of the proposed solar tower sites for the project. Though bird detections will be recorded at all distances, quantitative data will be recorded for detections occurring within a 0.5-mile (800-meter) radius of BUC observation points. Under this design, the total area surveyed from the

six BUC observation points (4.7 mi² or 12.1 km²) comprises 31.5% of the area occupied by the project boundary plus a 0.6 mile (1 km) buffer (14.8 mi² or 38.34 km²).

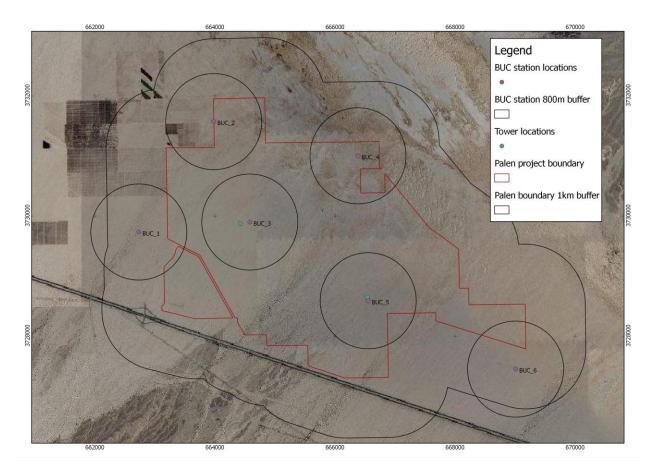


Figure 1: Arrangement of 6 BUC observation points across the Palen project site and 0.6 mi (1 km) buffer.

During BUC surveys, each biologist will remain at the station for the number of hours specified above (weather permitting) and record the following information for all birds detected regardless of their size or distance from the observer: time, observation point ID, species, distance and direction from surveyor, estimated height above ground level (agl), flight direction and number of individuals (if in moving in a group). Additional information regarding flight movements will be collected for all raptors, and other targets larger than an American Crow (*Corvus brachyrhynchos*) that pass within 0.5 miles (800 meters) of the observer, including the following (as pertains to behaviors within this distance range only): flight types observed, minimum height (agl), maximum height (agl), total number of minutes spent flying at heights greater than, or less than 200 meters. Using rangefinders, landmarks and reticle monoculars, all surveyors will be trained in estimating distances and heights across the range expected for these surveys. Surveyors will also be provided with a rangefinder when conducting surveys, so they can measure the distances to various landmarks around each station and use the landmarks accordingly in distance estimates.

Staffing

May 6 to June 1: One or two biologists work 9-hour field days (plus travel and data entry time) for a total of 6 biologist-days per week.



Timeline

Early Summer 2013 BUC Surveys: May 6 – June 1 (4 weeks).

Task 2. Small Bird Counts

Description

BBI will conduct Small Bird Count (SBC) surveys at 120 to 150 point count stations weekly from May 6 to June 30. Point count surveys will occur at the same 120 stations that were surveyed during the spring period (April 8 – May 3) until a revised set of SBC point count stations can be designed, which encompasses the project footprint plus a 1-mile (1.6 km) buffer, rather than a 0.6 mile (1 km) buffer surrounding it, as originally designed. It is anticipated that the new design will increase the number of stations from 120 to as many as 150. Once the expanded SBC station locations are finalized, BBI will begin surveying all 120-150 stations on the project footprint and 1-mile (1.6 km) buffer once per week. It is anticipated that this transition will occur by the week beginning with June 12.

SBC surveys are designed primarily to evaluate the use of the Project footprint and surrounding areas by resident and migrant passerines and other small and medium-sized birds, though larger birds and raptors will be recorded as well. All SBC surveys will be conducted between 15 minutes before sunrise and 6 hours after sunrise, to ensure the maximum probability of detecting target species, as this is the most active time of day for passerine birds, particularly in desert habitats. The order in which stations are surveyed will be rotated regularly such that each station is surveyed at different times of the morning. In addition, if surveys are conducted by more than one biologist, the surveyors will rotate between observation points to ensure that all points are surveyed equally by different biologists within a given season.

Presently, the 120 point count stations are arranged across the project footprint and a 0.6-mi (1-km) buffer surrounding it, along 15 transects, each approximately 2600 yards (2400 meters) in length, with 5-13 point count stations spaced 270-380 yards (250-350 meters) apart, as shown below (Figure 2). Transects are spaced roughly evenly along the east to west axis through the site, though their precise locations along this axis were chosen so as to ensure that different habitat types are sampled in proportion to their occurrence. Thus, approximately 50-60% of stations are within the area of direct impact from construction and 40-50% of them are situated at various distances from the direct impact zone and within the area of potential indirect impacts. No point count station is situated more than 1 kilometer from an area of direct (permanent) impact. Under this design, the total area surveyed from the 120 SBC stations comprises at least 9.8% (1.5 mi² or 3.8 km²) of the area occupied by the project boundary and 0.6 mile (1 km) buffer (14.8 mi² or 38.34 km²). This conservatively assumes a survey radius of 110 yards (100 meters) around each station, though many of the detections will likely occur at greater distances.

The 120 SBC point count stations are distributed relatively evenly across the site in an effort to provide coverage of different habitat types (strata) in proportion to their frequency of occurrence. Avian abundance and diversity among stations may ultimately be analyzed in relation to the following variables: distance from proposed tower locations, vegetation/habitat type, and distance from habitats that correlate with greater prey abundance (e.g., Sonoran desert wash, other areas with greater moisture or vegetation density). The same design will be applied when the number of stations is increased and BBI will provide new maps and statistics regarding the distribution of stations among habitats and key areas of interest near the site.

During SBC surveys, a qualified avian biologist will begin noting birds detected by sight and sound immediately after arriving at the station and for 10 minutes thereafter. Biologists will also record all sightings of potential Golden Eagle prey, such as small mammals, during the 10-minute surveys and while walking along transects between point count stations. Though bird of all sizes and at all distances from the observer will be recorded, an emphasis will be placed on detecting birds within 110 yards (100 meters) of the observer. For each bird detected, biologists will record the following information: species, sex (if known), age (if known), distance from station,



direction from station (W, NW, N, etc.), the minimum and maximum heights reached above ground, total number of minutes (rounded up to the nearest whole minute) observed flying between ground level and the height of the proposed towers and mode of detection (visual, song, call, other). Anecdotal observations indicating breeding activity will also be noted, including whether the birds were observed carrying nesting material or food, or attending nests or fledglings.

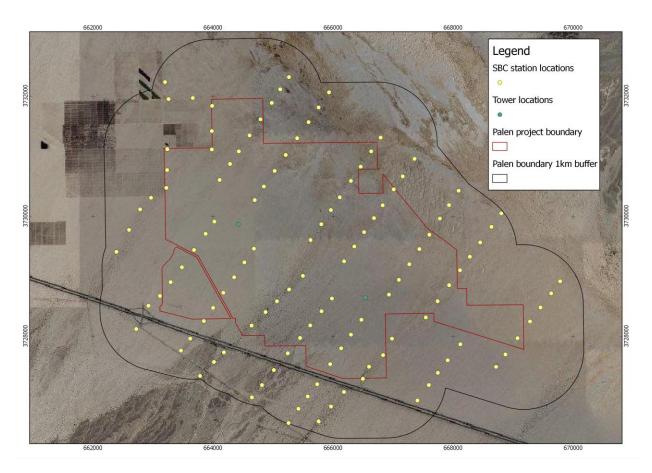


Figure 2: Arrangement of 120 SBC point count stations across the Palen project site and 0.6 mi (1 km) buffer.

Using rangefinders and landmarks, all surveyors will be trained in estimating distances across the range expected for these. Surveyors will also be provided with a rangefinder when conducting surveys, so they can identify the distances to various landmarks around each station and use the landmarks accordingly in distance estimates.

Staffing

Eight weeks of Summer SBC surveys: Three biologists work 7-hour field days (plus travel and data entry time) for a total of 15 biologist-days per week (At a <u>maximum</u>, depending on final number of points after expansion)

Timeline

Summer 2013 SBC Surveys: May 6 – June 30 (8 weeks).



Task 3. Mist Net Surveys

Description

No single method for evaluating avian diversity and abundance comes without the potential for systematic shortcomings. Point count surveys are often used for such evaluations because they can provide relatively robust estimates in different habitat types, and because distance methods can be used to control for detection probabilities when deriving density estimates. Indeed, the point count methodology implemented for SBC surveys in the present study provides the single most effective method for the task at hand, but one shortcoming is that some species or individuals may go undetected because they are elusive or move quickly through the survey area. This is potentially problematic during migration, when species may move through the site unnoticed, or without pausing and providing adequate time for identification. Additionally, and perhaps even more importantly, the SBC surveys described in Task 3 are designed to provide a baseline for the future evaluation of any changes in avian diversity and abundance within direct (permanent) impact areas from pre to post-construction. Once heliostats have been constructed within the majority of these point count stations, it is possible that the ability to detect birds, particularly those that forage and are otherwise found near the ground, will be lower within these areas because visual detection is obstructed by the presence of large heliostats, even though the mowed vegetation will enhance visibility over baseline conditions. This could lead to an underestimation of post-construction bird densities, and potentially to misleading results when compared with pre-construction surveys where heliostats were absent and detectability of these species was higher.

For these reasons it is critical to supplement SBC point count surveys with a secondary method that increases the probability of detecting inconspicuous birds, and which is not susceptible to differences in detectability such as those outlined above. BBI proposes to address this concern by implementing mist net surveys in a variety of habitats where point counts will also be conducted. Estimates of avian diversity and abundance from mist net surveys can be compared directly with those achieved during point count surveys in the same habitats to determine if the two methods provide comparable results. Perhaps even more importantly, the estimates from mist netting during pre-construction will provide a reliable baseline dataset for comparison with post-construction mist net and point count surveys after heliostats have been constructed on site.

Summer mist net surveys will be conducted along SBC point count transects and within 200 meters of a point count station in the following habitat types: Desert wash woodland, creosote scrub (but near open water and palm plantations on adjacent private land). Each week one habitat type will be surveyed for three consecutive days (weather permitting). At each location, twelve 12-meter long mist-nets will be arranged in three rows of four nets placed side-by-side reaching from east to west to maximize capture of migrant birds moving south to north. The nets may be slightly staggered along the east-west axis, and each row of nets will be spaced approximately 50-100 meters apart along the north-south axis, in a fashion that suits the vegetative structure of the specific banding site so as to maximize the probability of capturing birds.

From May 6 to June 15 (6 weeks), two biologists will work 3 days per week, 8 hours per day, to conduct mist-net surveys. An additional day will be devoted to setting up nets before the first morning of banding). During each day of mist-net surveys, the two biologists will work together to operate all 12 nets from sunrise until 1100h daily, except during precipitation or extreme temperatures, or if wind conditions cause the net trammels to billow out to the extent that they become highly visible and ineffective in catching birds.

All birds captured in nets will be removed carefully, banded with a unique aluminum Fish and Wildlife Service leg band and released. Information recorded for all captures will include: station, date, time, bander's name, band number, molt, level of stored fat, and feather/plumage characteristics and where possible, age and sex.

Staffing



Six weeks of summer mist net surveys: Two biologists work 7-hour field days (plus travel time to and from site) for 4 days (1 day to set up nets, 3 to run surveys) per week.

Timeline

Summer 2013 Mist Net Surveys: May 6 – June 15 (6 weeks).

Task 4. Focused Elf Owl Surveys

Description

BBI will conduct call-playback surveys for Elf Owls in suitable habitat on and adjacent to the site three times during the nighttime hours between May 6 and June 15. No standardized call-playback survey protocol for Elf Owls exists, therefore the methods presented herein are based on those recommended for Elf Owls at the nearby Rio Mesa Solar Electric Generating Facility in 2012 (URS 2012). The proposed survey period for the present survey would begin later than is recommended, and will miss the entire migratory season (which ends in mid-April). It is also recommended that surveys be conducted during a "preferred window" extending from the first week in April through May 15. As such, the proposed surveys will be conducted late, and although Elf Owls commonly call and are otherwise detected on territory during the months of May, June and July, their responsiveness is believed to be higher during the preferred window. As such, surveys conducted during the proposed window may fail to detect migrant birds that utilize the site earlier in the Spring season, and will have a lower probability of detecting territorial birds that would surveys conducted during April and early May.

Surveys will begin at twilight and last for 5 hours and will be conducted in all publicly accessible suitable habitat onsite and within a 1/2-mile buffer of the site. Where possible, surveys will also be conducted along the periphery of adjacent private lands with suitable habitat (e.g., palm plantation). Surveys will not be conducted when wind speeds are higher than 10-15 miles per hour or are otherwise judged to be capable of impeding the ability of biologists to detect calls at a distance of 220 yards (200 meters). During surveys, biologists will work in pairs for safety and detection-efficiency purposes. Pairs of biologists will walk through suitable habitat along predetermined transect routes, stopping at call stations and intermediate listening stations spaced at regular intervals along transects. In areas near roads where noise from traffic may impede the hearing of biologists or owls ("highnoise" areas), call stations will be spaced at 160-yard (150-meter) intervals. In areas at least 0.6 miles (1 km) from the nearest roads with regular traffic ("low-noise" areas), call stations will be spaced at 440-yard (400-meter) intervals, and intermediate listening stations will be placed mid-way between each call station, at a 220 yard (200-meter) intervals.

At each call station, biologists will do the following: (1) Conduct a 2-minute listening period prior to broadcasting a taped call, (2) broadcast Elf Owl calls for 30-seconds, followed by a 90-second listening and observation period, (3) Repeat this calling/listening sequence for at least 10 minutes (high-noise areas) or 6 minutes (low-noise areas). During the survey/listening sequence, biologists will periodically scan trees and cavities, for owls that may be present and not vocalizing. After the 6-minute survey/listening sequence is completed, biologists will observe and listen for an additional 2 minutes before proceeding to the next call or listening station. Combined with the initial 2-minute listening period, the total time spent at each call station will be a minimum of 14 minutes (high-noise areas) or 10 minutes (low-noise areas). When broadcasting Elf Owl calls, the volume will be set at an adequate level to get complete coverage along a survey route without causing distortion to the call, and calls will be broadcast in all directions containing suitable habitat.

Intermediate listening stations will be spaced at 220-yard (200-meter) intervals between call stations in low-noise areas. At each intermediate call station, biologists will pause to watch and listen for Elf Owls in all directions for 2 full minutes, but will not broadcast playback unless an Elf Owl is detected that cannot be located.



If an Elf Owl is heard or seen at any point along the survey route, the biologist will end any broadcasts in progress to reduce further harassment, unless additional responses are needed to pinpoint the location of the owl. The biologist will observe the owl as long as possible without disturbing it and record all observations, including the use of cavities, evidence of breeding, and prey observations. Every effort will be made to determine more individuals are present at the location or nearby, in addition to the initially detected owl. The location will be marked with a handheld GPS and the coordinates recorded on a datasheet with relevant notes.

GPS logs will be kept from each survey by each biologist showing the exact path walked, all points at which call stations and listening stations were implemented, and the locations of any Elf Owls detected.

Staffing

May 6 to June 15: Six biologists work in three groups of two for one night per week, each for 7 hours of field time each night (plus travel and data entry time).

Timeline

Summer 2013 Elf Owl Surveys: May 6 – June 15 (6 weeks).

If you have any questions or comments about this proposal, please call Marcus C. England at (949) 272-0905.

Sincerely,

BLOOM BIOLOGICAL, INC.

Marcus C. England Vice President

Michael Kuehn, Ph.D.

Senior Biologist/Statistical Analyst



BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION OF THE STATE OF CALIFORNIA

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PALEN SOLAR ELECTRIC GENERATING SYSTEM AMENDMENT

Docket No. 09-AFC-7C PROOF OF SERVICE (Revised 05/23/2013)

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Hildeberto Sanchez, Eddie Simmons, and Laborers' International Union of North America, Local Union No. 1184 c/o Richard T. Drury Christina M. Caro Lozeau|Drury LLP 410 12th Street, Suite 250 Oakland, CA 94607 richard@lozeaudrury.com christina@lozeaudrury.com

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After docketing, the Docket Unit will provide a copy to the persons listed below. Do not send copies of documents to these persons unless specifically directed to do so.

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Jennifer Nelson Adviser to Presiding Member

Gabe Taylor Adviser to Associate Member

Eileen Allen Commissioners' Technical Adviser for Facility Siting

DECLARATION OF SERVICE

I, Marie Fleming, declare that on June 6, 2013, I served and filed copies of the attached <u>SCOPE OF WORK FOR PSEGS SUMMER 2013 PRE-CONSTRUCTION AVIAN FIELD SURVEYS</u>, dated May 8, 2013. This document is accompanied by the most recent Proof of Service, which I copied from the web page for this project at: http://www.energy.ca.gov/sitingcases/palen/compliance/.

The document has been sent to the other persons on the Service List above in the following manner:

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For service to all other	parties and filing w	ith the Docket Unit a	t the Energy Commission:
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X						personally delivered it or as "hard copy required";
		•	,	delivered it or depo t for whom a mailin		s. mail with first class n.
	e under penalty on over the age o		the laws of the S	State of California t	hat the foregoing i	s true and correct, and
Dated:	June 6, 2013				Marie Flem	ing

ATTACHMENT DR 40d-1 DESERT TORTOISE, SPECIAL-STATUS WILDLIFE SPECIES, SPECIAL-STATUS PLANTS (KARL 2013A)



455 Capitol Mall Suite 350 Sacramento CA 95814 Tel •916.441.6575 Fax •916.441.6553

May 21, 2013

California Energy Commission Dockets Unit 1516 Ninth Street Sacramento, CA 95814-5512

Subject: PALEN SOLAR ELECTRIC GENERATING SYSTEM SUMMARY OF

SPRING WILDLIFE AND PLANT SURVEYS

PALEN SOLAR ELECTRIC GENERATING SYSTEM

DOCKET NO. (09-AFC-7C)

Enclosed for filing with the California Energy Commission is the electronic version of **PALEN SOLAR ELECTRIC GENERATING SYSTEM SUMMARY OF SPRING WILDLIFE AND PLANT SURVEYS**, for the Palen Solar Electric Generating System (09-AFC-7C).

Sincerely,

Marie Fleming

Alice E. Karl, Ph.D. P.O. Box 74006 Davis, CA 95617

16 May 2013

Ms. Ann Crisp California Energy Commission 1516 9th St. Sacramento, CA 95814-5512

Re: Palen Solar Electric Generating System (PSEGS), Summary of Spring Wildlife and Plant Surveys

Dear Ms. Crisp,

This letter transmits a summary of the methods and results of surveys, to date, conducted in Spring 2013 for the PSEGS project (Project) for desert tortoise, special-status wildlife, burrowing owl and special-status plant species. The summary of the survey for state waters will be transmitted under separate cover shortly. Continuing surveys for bats, burrowing owls, other birds, and golden eagles will be submitted upon completion of those surveys, or quarterly, as appropriate. Per agreement in the 17 April workshop with the California Energy Commission (CEC), the surveys reported herein were restricted to the additions to the footprint of the Approved Project (Palen Solar Power Project [PSPP]), specifically two linear facilities: the gen-tie extension and the addition of a natural gas pipeline.

1.0 Desert Tortoise

Survey Methods

Comprehensive biological resource surveys designed to meet all applicable FWS, Bureau of Land Management (BLM), California Department of Fish and Wildlife (CDFW) and CEC requirements were conducted on several dates between 7 and 30 April 2011, with most of the survey completed on 7 April. Surveys adhered to the most recent FWS survey protocols (FWS 2010), with the addition that the three buffer surveys were conducted to ensure coverage of the Project "Action Area", irrespective of whether tortoise sign were encountered in the Linear Corridor². These methods were presented to all three agencies on 6 March 2013.

The Survey Area included 100% coverage of the modified gen-tie (120 ft wide) and the gas pipeline (50 ft wide), using transects spaced 10 m apart (Figure 1). In addition, single 10-m-wide transects were walked at 200 m, 400 m and 600 m parallel to both

¹ "Action Area" is a term used by FWS to denote all areas in which a listed species may be directly and indirectly affected by project activities.

² The 2010 protocols do not require that buffer surveys be conducted if tortoise sign is observed in a linear corridor.

edges of the Linear Corridors. Two experienced tortoise/desert biologists (Paul Frank and Alice Karl) conducted the surveys. Transects were pre-programmed into Global Positioning System (GPS) units to ensure accurate and complete coverage.

Underpasses within the buffer zone also were surveyed for evidence of tortoise use. The habitat in these was described per request from FWS (J. Fraser, FWS Biologist, 11 March 2013 e-mail to A. Karl). Between buffer transects, sign was sought along the freeway. This also included most of the artificial swale on the south side (next to the pavement), although the density of the cheesebush in this swale is so high that only an intense, clearance-type of survey would be conclusive. That said, the sandy floors of the swale and underpasses provided a very good substrate for tortoise tracks; in fact, many tracks of other animals (rodents, birds, foxes, deer) were observed.

On all transects, all tortoise sign (tortoises, burrows, shells, scat, tracks, drinking depressions) observed was measured, mapped, and described relative to condition, age and, if possible, gender; cover site locations were additionally described relative to location and associated sign. Tortoises were photographed only if that could be achieved without touching or otherwise harassing the tortoise. Tortoise location (e.g., aboveground, visible in burrow, not visible in burrow) was recorded. Shells and shell parts also were further evaluated relative to the cause of death, if possible, and whether each represented an entire individual. Current and recent weather conditions were recorded and the topography, drainage patterns, soils, substrates, plant cover, and aspect-dominant, common and occasional plant species described and mapped. All incidental sightings of common ravens, other known tortoise predators, and other site features (e.g., anthropogenic influences) that could assist in the analysis of tortoise population impacts were recorded and mapped using a GPS unit. All transect data were recorded on specially-designed data forms and representative areas photographed.

Survey Results

No live tortoises were found on the Linear Facilities routes or buffer transects (Table 1). Sign of recent tortoise occupation included two burrows on the gen-tie buffer, south of I-10, and one questionable burrow in the buffer north of the freeway (Table 3, Figure 1). Otherwise, all remaining sign were older, and included one burrow in the gen-tie buffer and two sets of shell fragments, each comprising only one or a few plates. All of the sign represented adult tortoises except one set of shell fragments, which was part of a mid-sized immature tortoise.

Table 1. Summary of Desert Tortoise Sign Observed on the Modified Linear Facilities, Spring 2013

	Number of Observations					
Sign Type	Gen-tie	Gen-tie Buffer	Natural Gas Pipeline	Natural Gas Pipeline Buffer	Total	
Individual	0	0	0	0	0	
Burrow - Recent	0	2	0	0	2	
Burrow – Not Recent	0	1	0	0	1	
Potential Burrow	0	1	0	0	1	
Scat (not associated with burrow)	0	0	0	0	0	
Shell Fragments < 4 years old	0	0	0	0	0	
Shell Fragments > 4 years old	1	0	0	1	2	

The FWS (2010) protocols do not provide a method for estimating tortoise density when no tortoises are observed. Presence is verified by tortoise sign, although current occupation cannot be verified except by the presence of sign that indicates current use. For the Modified Linear Facilities, there was sufficient recent sign in the buffers to substantiate tortoise use of this portion of the Project, which is not surprising since both facilities travel through fairly low quality tortoise habitat. Data from the Approved Project (AECOM 2009 and 2010b) and the adjacent Desert Sunlight project, for both their 2008-2010 surveys (Ironwood Consulting, Inc., 2010) and recent construction monitoring (K. Stein, pers. comm. to A. Karl) also confirm that there are tortoises in the vicinity of the gen-tie (Figure 2, Centerline 2013a).

For the Approved Project, no live tortoises were observed within the PSPP boundaries. FWS used tortoises found in the buffer transects of the gen-tie (i.e., the Action Area) to estimate tortoise density for the Project and estimated that two subadult or adult tortoises occupy the Project (FWS 2011:18). They further used regional estimates to extrapolate to the Project and concluded that 2-12 adult tortoises may occupy the site. They used these estimates to further estimate the number of juvenile tortoises and eggs. The current data from the 2013 surveys of the Modified Linear Facilities do not provide any information that would alter this analysis.

Carcasses are sometimes used to evaluate past tortoise density, although this is very difficult for shells that are over about four years in age. It is simply too difficult to age those shells accurately. Furthermore, shells are transported by scavengers, predators,

and water flow. For example, one of the shell fragments observed was found in a woodrat nest. But, it can be reasonably concluded that at least one additional adult, probably a female, occupied the vicinity of the modified gen-tie and one immature tortoise occupied the vicinity of the gas line more than four years ago.

Summary and Conclusion

The Spring 2013 surveys on the Modified Linear Facilities do not provide information that would alter the tortoise density estimated for the Approved Project. Nor are the impacts to critical habitat substantially changed, although 4.6 acres more are affected (Table 2). Because of the low estimated density, the proposed take of desert tortoise is expected to be low, and is not likely to have a biologically significant impact on the species or the local population or the species.

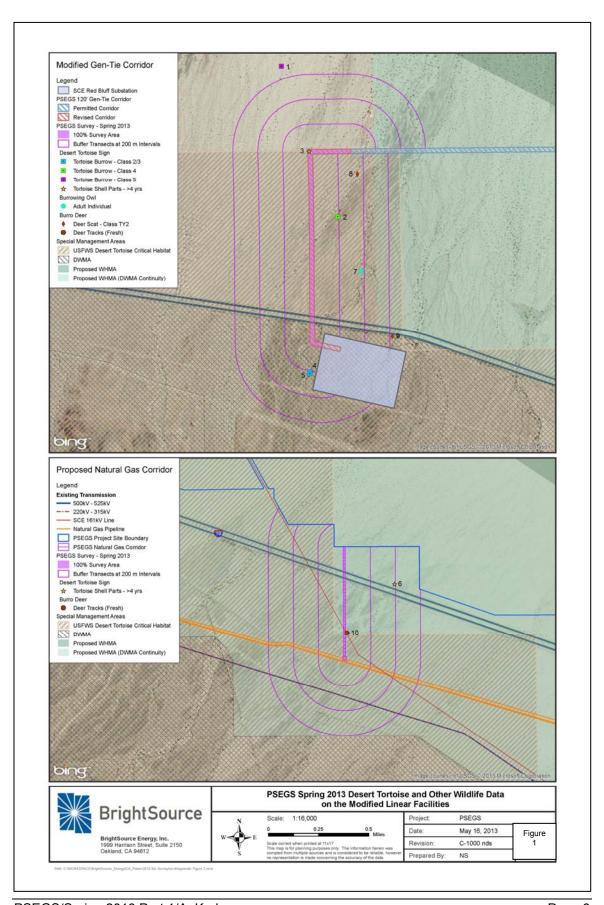
Table 2. Estimated Acres of Desert Tortoise Habitat Disturbed for the Modified Linear Facilities. (Source: BrightSource Energy, Inc.)

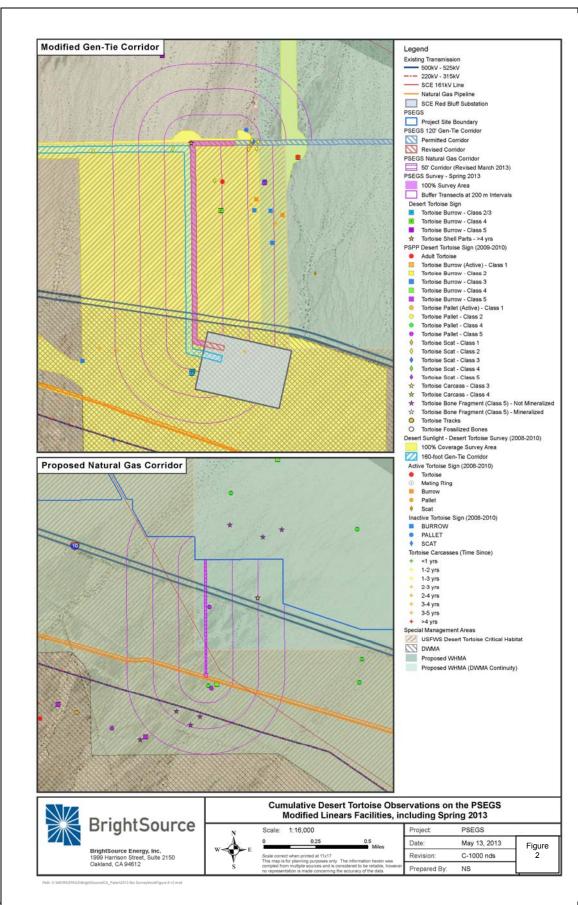
Location and Habitat Type	Total Modified Project	Phase 1	Phase 2	Total Minus Permitted Project
Modified Gen-Tie ¹				
Total	18.9	18.9	0.0	4.5
Critical Habitat	18.1	18.1	0.0	3.7
Outside Critical Habitat	0.8	0.8	0.0	8.0
DWMA	2.3	2.3	0.0	1.5
Outside DWMA	16.6	16.6	0.0	2.99
Gas Pipeline				
Total	3.3	0.0	3.3	Not Applicable
Critical Habitat	0.9	0.0	0.9	Not Applicable
Outside Critical Habitat	2.4	0.0	2.4	Not Applicable
DWMA	0.0	0.0	0.0	Not Applicable
Outside DWMA	0.0	0.0	0.0	Not Applicable

Because the modified gen-tie was moved 1128 ft west, where it parallels the original gen-tie route, most of the
acreage was already accounted for in the original BO, with the additional acreage only in the east-west portion, plus a
small amount south of I-10. The permitted gen-tie intersected critical habitat for the entire north-south portion and the
DWMA south of I-10.

Table 3. All Special-Status Species Sign Observed on the Modified Linear Facilities, Spring 2013. Individual sign corresponds to the map number on Figure 1.

Modified Project	Map # Corresponding	Element Part	Species	Sign Type	Date	Class (Condition	Comments
Element	to Figure 1					or Age) and Size,	
						and Size, as	
						Appropriate	
Gen-Tie							
	4	Buffer 200W, south of I-10	Desert Tortoise	Burrow	24 April	Class 2/3; ~350 mm	Caliche burrow in side of large (5-6 m deep) wash, with TY2 adult (19-21mm wide) scat on mound and inside. Burrow has stick gates for construction monitoring.
	5	Buffer 200W, south of I-10	Desert Tortoise	Burrow	24 April	Class2/3; 630 mm	Caliche burrow in same wash as burrow above, ~20 m away. Cavern is very open inside and >2 m deep; scat.
	1	Buffer 600W, north of I-10	Desert Tortoise	Burrow	7 April	Class 5; ~340 mm	Collapsed
	2	Buffer 200E, north of I-10	Desert Tortoise	Burrow	7 April	Class 4; 380 mm	In sandy, silty wash bank; old, but good size and shape.
	3	Right-of-way	Desert Tortoise	Shell parts	7 April	>4 years; adult	Probably old female (very thin); 3-4 fragmented marginals and other plates
	7	Buffer 400E, north of I-10	Burrowing owl	Individual	7 April		1 bird in large wash, adult, flew. Could not locate burrow.
	8	Buffer 400E, north of I-10	Burro deer	Scat	7 April	TY2	Near the large wash that goes under wash in cement culvert.
	9	Buffer 600E, south of I-10	Burro deer	Scat	7 April	TY2	In wash next to freeway.
Natural Gas	Pipeline						
	6	Buffer 400E, north of I-10	Desert Tortoise	Shell parts	29 April	>4 years; Carapace length ~140- 160 mm	Right anal plate. In pack rat midden.
	10	Buffer 200E, south of I-10	Burro deer	Tracks	7 April	Fresh	





2.0 Western Burrowing Owl

Survey Methods

The most recent burrowing owl survey guidelines (California Department of Fish and Game [CDFG] 2012) were used to survey the Modified Linear Facilities. These require four field visits during the breeding season, where burrowing owl habitat exists. While no burrowing owls were observed in the vicinity of the Modified Linear Facilities during earlier surveys for PSPP (AECOM 2009, 2010), the Modified Linear Facilities offer suitable habitat, so the entire Modified Linear Facilities would be surveyed in 2013.

CDFW agreed to the following specific clarifications to the burrowing owl survey (M. Rodriguez, e-mail to A. Karl):

- The first of the four required visits was concurrent with the comprehensive wildlife and desert tortoise survey, conducted on 7 April. Transects were walked at 10 m intervals to locate burrowing owl burrows or other suitable burrows, and also observe individual owls, if present. The survey coverage is explained above, in the section on desert tortoise methods.
- 2. The subsequent three surveys would be at least three weeks apart, with one after June 15. They would comprise walking surveys of the Modified Linear Facilities, with stop/scans at 100 m intervals. Surveys would be conducted at the recommended morning and evening windows and weather. Since we had already walked the entire Modified Linear Facilities at 10 m intervals to find burrows (which is the purpose of the recommended 20 m intervals in the CDFW guidance) and the habitat is very open (<5-7% cover), the subsequent transect widths would be 40 m. This would help us locate newly constructed burrows and other burrows in the buffer areas adjacent to the facility corridors. To this end, one transect would be walked in both the gen-tie corridor center with another at 40 m to each side of that transect, and one would be walked in the gas line corridor. Two additional buffer transects would be walked on each side of both facilities. All transects (three gen-tie, one gas line, plus two additional buffers on each side of both) would be walked each survey day, if there was sufficient time; if time was insufficient, then the buffer transects would be rotated with each visit to ensure that all areas are surveyed multiple times. Buffer transect locations would be moved slightly on subsequent visits so that more area could be viewed.

Survey Results

The results reported herein are for the initial, 7 April survey, during which one adult burrowing owl was observed on the 400 m buffer east of the modified gen-tie (Table 3, Figure 1). A search was made for the burrow, but none was found. No other burrowing owl sign was observed.

3.0 Other Special-status Wildlife

Survey Methods

Other special-status wildlife were sought during desert tortoise surveys (see above). The potential list of special-status species was provided to CEC on 25 March (Centerline 2013b). All observations of special-status wildlife species, their sign (e.g., scat, tracks, bones, feathers) and specialized habitats (e.g., water pooling areas) was sought, mapped, and recorded. Desert kit fox den complexes were mapped and described relative to age and size. An inventory was kept of all wildlife detected. All freeway underpasses in the buffer area were checked for bat sign.

Survey Results

Both scat and tracks of burro deer were observed in arboreal washes east of the modified gen-tie, both adjacent to the freeway (Table 3, Figure 1). One set of deer tracks was also observed in the buffer for the gas pipeline, south of the freeway.

No other special-status species, specialized habitats, or dens of kit fox were observed. However, other kit fox sign was observed, so they would be expected in the vicinity of the Modified Linear Facilities.

4.0 Special-Status Plant Species

Survey Methods

Special-status plant surveys were conducted in accordance with the CDFW *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (CDFG 2009) and the U.S. Bureau of Land Management's (BLM's) *Survey Protocols Required for NEPA and ESA Compliance for BLM Special Status Plant Species* (BLM 2009). Although plant surveys typically follow BLM (2009) guidelines for an intuitive controlled survey, wherein a full survey is completed (i.e., 100 percent visual examination) in habitats with the highest potential for rare plants, with sampling in the remaining areas, the PSEGS survey covered such a small area that both linear routes were entirely surveyed. Surveys covered 100% of the Modified Linear Facilities routes, where plants might be directly affected during Project construction and Project operations, plus areas outside the routes where project activities might affect offsite populations. A list of potential special-status species was provided to the CEC on 25 March (Centerline 2013b).

All individuals of cacti, yucca and trees protected by the California Desert Native Plant Act (CDNPA) also were tallied, with mapping occurring by individuals, populations or Project segment, depending on biological relevancy or practicality. To augment the focused plant survey, special-status plant species and invasive plant concentrations were recorded, if observed, during the desert tortoise survey as well.

Surveys were conducted on 30 March. Primary production was average to better than average and annuals were fruiting, with many still flowering, enabling a comprehensive survey and good species identification. Tim Thomas and Glenn Rink, both of whom were very familiar with the area and species, including special-status species, conducted the surveys. They had just completed other identical surveys in the area and were completely aware of the phenology and current conditions of all plants in the area, so had excellent search images and honed identification skills.

Results

No special-status plant species were observed. No concentrations of invasive species were observed to grow on the Modified Linear Facilities, nor were any invasive species abundant.

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Rodriguez, M. E-mail to A. Karl on 24 April 2013.

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- ---. 2011. Section 7 Biological Opinion on the Palen Solar Power Project, Riverside County, California. Palm Springs-South Coast Field Office. 49 pp.

Please feel free to contact me if you have further questions regarding these data. I can be reached at (530) 304-4121 or heliophile@mindspring.com

Respectfully,

Alice E. Karl, Ph.D.

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BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION OF THE STATE OF CALIFORNIA

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PALEN SOLAR ELECTRIC GENERATING SYSTEM AMENDMENT

Docket No. 09-AFC-7C PROOF OF SERVICE (Revised 05/16/2013)

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COMMISSION DOCKET UNIT

California Energy Commission Docket Unit Attn: Docket No. 09-AFC-07C 1516 Ninth Street, MS-4 Sacramento, CA 95814-5512 docket@energy.ca.gov

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Jennifer Nelson Adviser to Presiding Member

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Eileen Allen Commissioners' Technical Adviser for Facility Siting

DECLARATION OF SERVICE

I, Marie Fleming, declare that on May 21, 2013, I served and filed copies of the attached **PALEN SOLAR GENERATING ELECTRIC SYSTEM SUMMARY OF SPRING WILDLIFE AND PLANT SURVEYS**, dated May 16, 2013. This document is accompanied by the most recent Proof of Service, which I copied from the web page for this project at: http://www.energy.ca.gov/sitingcases/palen/compliance/.

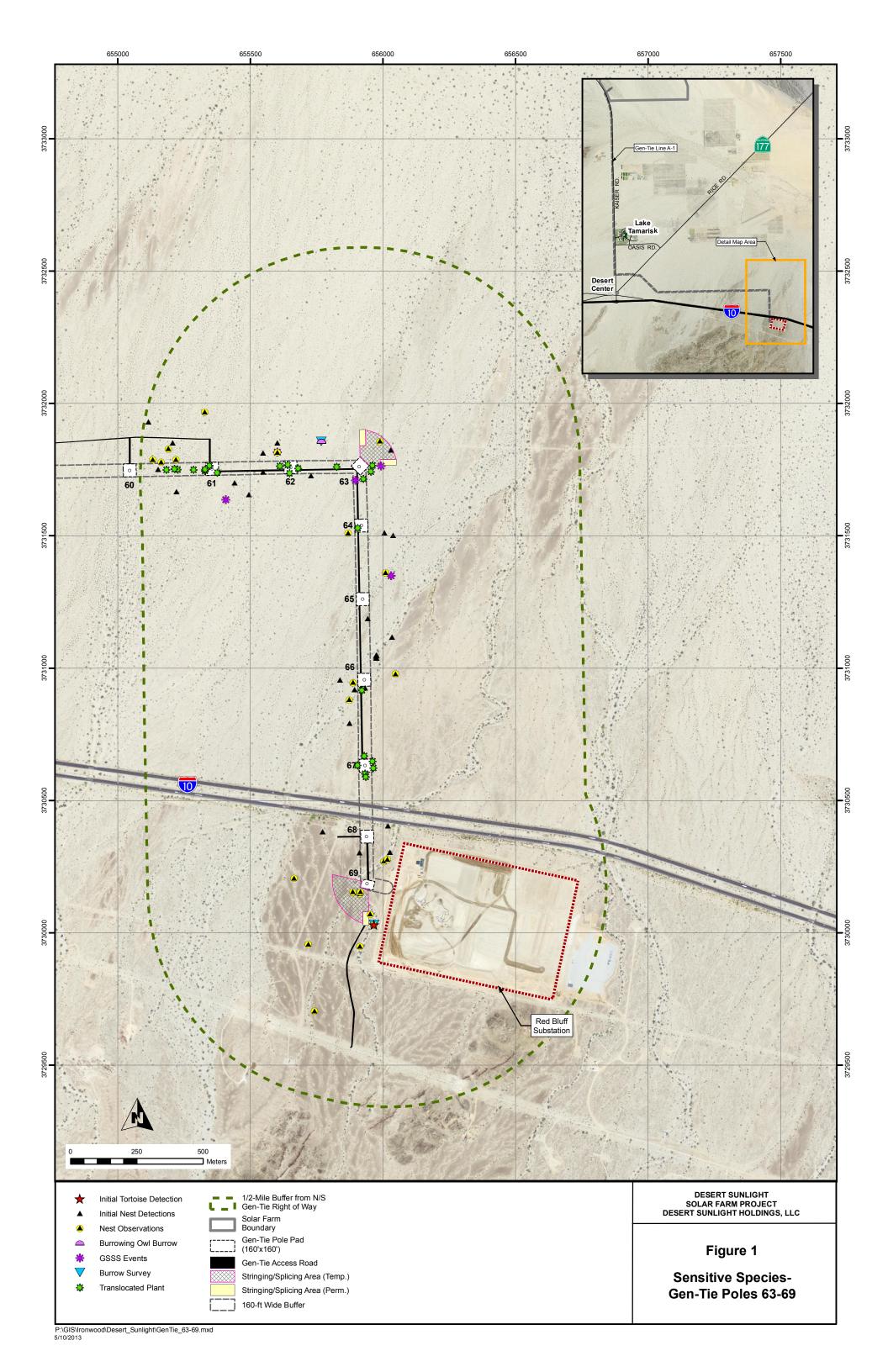
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	e under penalty of perjury under the laws of the State of California that the foregoing is true and correct, and n over the age of 18 years.
Dated:	May 21, 2013

Marie Fleming

ATTACHMENT DR 40d-2
IRONWOOD MONITORING RESULTS – DESERT SUNLIGHT PROJECT



ATTACHMENT DR 40d-3 SPRING 2013 PRE-CONSTRUCTION AVIAN SURVEY RESULTS





June 5, 2013

California Energy Commission Dockets Unit 1516 Ninth Street Sacramento, CA 95814-5512

Subject: PSEGS PRELIMINARY SPRING 2013 PRE-CONSTRUCTION AVIAN

FIELD SURVEY RESULTS

PALEN SOLAR ELECTRIC GENERATING SYSTEM

DOCKET NO. (09-AFC-7C)

Enclosed for filing with the California Energy Commission is the electronic version of **PSEGS PRELIMINARY SPRING 2013 PRE-CONSTRUCTION AVIAN FIELD SURVEY RESULTS**, for the Palen Solar Electric Generating System (09-AFC-7C).

Sincerely,

Marie Fleming



May 29, 2013

Mr. Charles Turlinski Director – Project Development BrightSource Energy, Inc.

[via email]

SUBJECT: Preliminary results from Spring 2013 pre-construction avian field surveys for the Palen

Solar Project located in the Chuckwalla Valley, Riverside County, California

Dear Mr. Turlinski:

Bloom Biological Inc. (BBI) was retained by Palen Solar Holdings to conduct Spring 2013 pre-construction avian field surveys for the Palen Solar Project located in the Chuckwalla Valley, Riverside County, California. The surveys conducted were based on recommendations for Tier 3 field studies described in the U.S. Fish and Wildlife Service Land-Based Wind Energy Guidelines, as well as recent guidance provided by the Renewable Energy Action Team (REAT) agencies specifically for the Palen Solar Project.

This letter presents the methods used and summarizes the raw, preliminary results of BBI's Spring 2013 avian surveys at the request of Palen Solar Holdings. The results are preliminary because the data have not yet been proofed or subjected to quality assurance procedures. The scope of this letter report does not include analysis of the data collected. Analysis of the data and interpretation of results within the context of the proposed project will not occur until all studies are completed and a final report is produced.

SITE DESCRIPTION

The Project Site is comprised of approximately 3,793 acres (1,535 hectares) located just north of Interstate 10 near the Chuckwalla Valley Road exit. On the Public Land Survey System, the Project Site is located in all or portions of Sections 27, 28, 29, 30, 31, 32, 33 and 34 of Township 5 South, Range 17 East and Sections 2, 3, 4, 5 and 6 of Township 6 South, Range 17 East of the U.S. Geological Survey's 7.5-minute *Sidewinder Well* quadrangle. Elevations on the Project Site range from approximately 440 feet (134 meters) above mean sea level near the northeastern boundary to 680 feet (207 meters) above mean sea level near the southwestern boundary. There are no significant terrain features on the Project Site, and terrain decreases gradually from southwest to the northeast.

Figure 1. Project site location relative to the state (left) and county (right).



METHODS

BBI conducted Bird Use Count (BUC) surveys, Small Bird Count (SBC) surveys and Mist Net (MN) surveys for four weeks between the dates of April 8 and May 5, 2013 on and adjacent to the Project Site. The abbreviated methods and summarized results of these surveys are discussed below.

BUC surveys were conducted to evaluate the use of the Project footprint and surrounding areas by medium to large resident and migratory birds, including Golden Eagles (Aquila chrysaetos) and other raptors. Six BUC observation points (O.P.s) were established across an area encompassing the project footprint plus a 0.6 mile (1 kilometer) buffer. Two of the O.P.s are situated within 220 yards (200 meters) of the proposed solar tower sites for the project. Though bird detections were recorded at all distances, quantitative data were recorded for detections occurring within a 0.5-mile (800-meter) radius of BUC observation points. Under this design, the total area surveyed from the six BUC observation points (4.7 mi² or 12.1 km²) comprised 31.5% of the area within the Project Site boundary plus a 0.6 mile (1 km) buffer (14.8 mi² or 38.34 km²). The coverage of the project footprint is not homogeneous, as more O.P.s were allocated on the eastern side of the project footprint where a palm plantation and a number of perennial ponds provide roosting and foraging habitat for migratory raptors and shorebirds.

For BUC surveys, each observation point was manned by a qualified avian biologist for 8 hours per day, 4 days per week. The starting time for surveys was rotated among the days of each week such that approximately ¼ of the 8-hour long surveys began at sunrise, ½ began 4 hours prior to mid-day and ¼ began 8 hours before sunset; thus ensuring that all stations are surveyed at all times of day, but with the focus being on the midday periods when raptors were expected to be most active. In addition, biologists rotated between observation points to ensure that all points were surveyed at various times of day equally by different biologists within a given season.

During BUC surveys, each biologist remained at the station for 8 consecutive hours (weather permitting) and recorded the following information for all focal species, which included all raptors, and other targets larger than an American Crow (*Corvus brachyrhynchos*) that passed within 1.2 miles (2 kilometers) of the observer (Golden Eagles were recorded at all distances): time, observation point ID, species, distance and direction from surveyor, estimated height above ground level (agl), flight direction and number of individuals (if in moving in a group). Additional information regarding flight movements was collected for focal species that passed within 0.5 miles (800 meters) of the observer, including the following (as pertains to behaviors within this distance range only): flight types observed, minimum height (agl), maximum height (agl), total number of minutes spent flying at heights of less than the height of the proposed towers. All non-focal species observations were summarized on a separate form and the

following summary data were collected on an hourly basis: number of individuals that passed within 0.5 miles (800 meters) of the observer, and the number of minutes spent flying at 0-49 and > 50 meters in height.

Using rangefinders and landmarks, all BUC surveyors were trained in estimating distances across the range expected for these surveys. Surveyors were also provided with a rangefinder when conducting surveys, so they could measure the distances to various landmarks around each station and use the landmarks accordingly in distance estimates.

SBC surveys were conducted to evaluate the use of the Project footprint and surrounding areas by resident and migrant passerine and other small and medium-sized birds, though larger birds and raptors were recorded as well. A total of 120 SBC stations was established across an area encompassing the project footprint plus a 0.6 mile (1 kilometer) buffer.

SBC surveys were conducted between 15 minutes prior to sunrise and 6 hours after sunrise, to ensure the maximum probability of detecting target species, as this is the most active time of day for passerine birds, particularly in desert habitats. The order in which stations were surveyed was rotated weekly such that each station was surveyed at different times of the morning. In addition, biologists rotated between observation points to ensure that all points were surveyed roughly equally by different biologists.

The 120 Spring SBC count stations were arranged along 9 survey transects and provided coverage of the major habitat types present within the project footprint and surrounding 0.6 mile (1 kilometer) buffer. All stations were separated by a distance of at least 270-380 yards (250-350 meters) to ensure independence of observations. Station locations were chosen by first creating transect routes that passed through desired habitats such as Desert Dry Wash Woodland, Un-vegetated Ephemeral Dry Wash Upland and Sonoran Creosote Bush Scrub, as well as other less well-represented habitat types present within the survey area. Once transects were established a series of random distances between 270-380 yards (250-350 meters) was generated and stations were placed along the transects at these sequential distances to ensure that survey stations were allocated randomly. Under this design, the total area surveyed from the 120 SBC stations comprises at least 9.8% (1.5 mi² or 3.8 km²) of the area occupied by the project boundary and 0.6 mile (1 km) buffer (14.8 mi² or 38.34 km²). This conservatively assumes a survey radius of 110 yards (100 meters) around each station, though many of the detections occurred at greater distances.

During SBC surveys, qualified avian biologists began noting birds detected by sight and sound immediately after arriving at the station and for 10 minutes thereafter. Biologists also recorded all sightings of black-tailed jackrabbit (*Lepus californicus*) and desert cottontail (*Sylvilagus audubonii*) while walking along transects between point count stations. Though bird of all sizes and at all distances from the observer were recorded, an emphasis was placed on detecting birds within 110 yards (100 meters) of the observer. For each bird detected, biologists recorded the following information: species, sex (if known), age (if known), distance from station, direction from station (W, NW, N, etc.), the minimum and maximum heights reached above ground, total number of minutes (rounded up to the nearest whole minute) observed flying between 0-49, 50-199 and >200 meters in height, and mode of detection (visual, song, call, other). Anecdotal observations indicating breeding activity were also noted, including whether the birds were observed carrying nesting material or food, or attending nests or fledglings. The coordinates and status of all nests were recorded.

Using rangefinders and landmarks, all surveyors were trained in estimating distances across the range expected for these surveys. Surveyors were also provided with a rangefinder when conducting surveys, so they could identify the distances to various landmarks around each station and use the landmarks accordingly in distance estimates.



Mist net surveys were conducted at 24 of the 120 SBC point count stations; 12 of the 24 stations were located within the direct (permanent) disturbance area and 12 were located within the indirect disturbance area, at various distances from the direct disturbance area. The 24 SBC stations where mist netting occurred were arranged in 8 clusters of 3 adjacent SBC stations on the same transect. The three stations within a cluster were surveyed on the same day.

Each day, three biologists worked together to survey three adjacent point count stations, operating four standard 2.6 x 12 meter mist nets per station for a total of twelve nets per day. Each week 6 stations (2 clusters of 3 stations) were surveyed for one day each. The four nets were arranged, and oriented, to the north, east, south and west of each observation point. Nets remained open from sunrise until 1100h daily unless precipitation, extreme temperatures, or high winds caused the nets to be closed early.

All birds captured in nets were removed carefully, banded with a unique aluminum Fish and Wildlife Service leg band and released. Information recorded for all captures included: station, date, time, bander's name, band number, molt, level of stored fat, and feather/plumage characteristics and where possible, age and sex.

RESULTS

During a combined 571 hours of surveying at six BUC stations over a four week period a total of 12 focal species was observed at all distances, with 11 species occurring within the 0.6 mile (800 meter) survey radius (survey area). The most commonly observed species were Turkey Vulture (1201 detections) and Common Raven (469 detections), which spent 96% and 91% of the time flying at heights below 200 meters, respectively. Three species of special concern, the Northern Harrier (*Circus cyaneus*, 32 detections), Swainson's Hawk (*Buteo swainsoni*; 114 detections) and Burrowing Owl (*Athene cunicularia*, 10 detections) were observed during surveys. No Golden Eagles were observed at any distance during Spring BUC surveys. A total of 35 non-focal species was observed during Spring BUC surveys. Among non-focal species, the most frequently detected non-focal species were the Horned Lark (*Eremophila alpestris*; 256 detections) and Tree Swallow (*Tachycineta bicolor*; 210 detections), followed by the Mourning Dove (*Zenaida macroura*; 51 detections) and other less frequently observed species. Four special status bird species were among the non-focal species detected, including Vaux's Swift (*Chaetura vaux*), Loggerhead Shrike (*Lanius ludovicianus*), Le Conte's Thrasher (*Toxostoma lecontei*), and Yellow-breasted Chat (*Icteria virens*).

Each of the 120 SBC point count stations was surveyed four times during the four-week period and a total of 78 species was observed at all distances, though 48 of these species were relatively rare with 10 or fewer individuals detected over the course of the Spring SBC survey period. The most frequently observed species was Turkey Vulture (360 detections) followed by Horned Lark (294 detections) and Cliff Swallow (*Petrochelidon pyrrhonota*; 274 detections). Of note, a number of shorebird and waterfowl species were detected during Spring SBC surveys, though not in high numbers. These were mostly detected on or near ponds on the adjacent properties but were occasionally seen flying over other areas of the Project footprint.

Mist Net (MN) surveys were conducted on 8 days, 2 days per week, at 8 banding stations, each consisting of net arrays at clusters of 3 SBC stations. Four of these stations were in Desert Dry Wash Woodland and four were in Sonoran Creosote Bush Scrub. Each day nets remained open from approximately sunrise until 1100h. In total 21 individuals of 11 species were captured and banded. No birds were captured during MN surveys in Sonoran Creosote Bush Scrub habitat. One species, Hermit Warbler (*Setophaga occidentalis*), was captured during MN surveys and was not detected on site during any other type of survey.



If you have any questions or comments regarding this letter please feel free to call us at 949-272-0905.

Sincerely,

BLOOM BIOLOGICAL, INC.

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Michael Kuehn

Senior Biologist/Statistical Analyst

Marcus C. England

Senior Biologist/Vice President



BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION OF THE STATE OF CALIFORNIA

1516 NINTH STREET, SACRAMENTO, CA 95814 1-800-822-6228 – www.energy.ca.gov

PALEN SOLAR ELECTRIC GENERATING SYSTEM AMENDMENT

Docket No. 09-AFC-7C PROOF OF SERVICE (Revised 05/23/2013)

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Jennifer Nelson Adviser to Presiding Member

Gabe Taylor Adviser to Associate Member

Eileen Allen Commissioners' Technical Adviser for Facility Siting

DECLARATION OF SERVICE

I, Marie Fleming, declare that on June 5, 2013, I served and filed copies of the attached <u>PSEGS PRELIMINARY SPRING 2013 PRE-CONSTRUCTION AVIAN FIELD SURVEY RESULTS</u>, dated May 29, 2013. This document is accompanied by the most recent Proof of Service, which I copied from the web page for this project at: http://www.energy.ca.gov/sitingcases/palen/compliance/.

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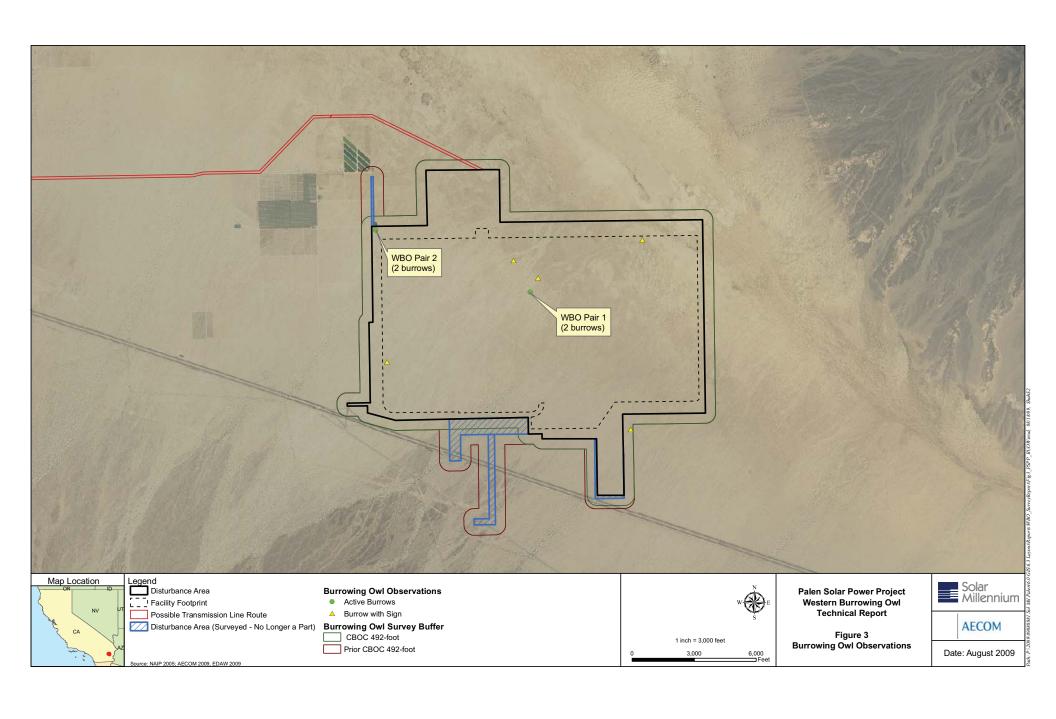
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	e under penalty of perjury under the laws of the State of California that the foregoing is true and correct, and nover the age of 18 years.
Dated:	June 5, 2013

Marie Flemin

ATTACHMENT DR 40d-4 2009 BURROWING OWL SURVEY REPORT



ATTACHMENT DR 40d-5 GOLDEN EAGLE WINTER 2013 SURVEYS



455 Capitol Mall Suite 350 Sacramento CA 95814 Tel •916.441.6575 Fax •916.441.6553

April 8, 2013

California Energy Commission Dockets Unit 1516 Ninth Street Sacramento, CA 95814-5512

Subject: PALEN SOLAR ELECTRIC GENERATING SYSTEM WINTER 2013

GOLDEN EAGLE SURVEY RESULTS

PALEN SOLAR ELECTRIC GENERATING SYSTEM

DOCKET NO. (09-AFC-7C)

Enclosed for filing with the California Energy Commission is the electronic version of **PALEN SOLAR ELECTRIC GENERATING SYSTEM WINTER 2013 GOLDEN EAGLE SURVEY RESULTS**, for the Palen Solar Electric Generating System (09-AFC-7C).

Sincerely,

Marie Fleming

PALEN SOLAR ELECTRIC GENERATING SYSTEM WINTER 2013 GOLDEN EAGLE SURVEY RESULTS

Prepared for:

BrightSource Energy, Inc. 1999 Harrison Street Suite 2150 Oakland, California 94612

Contact: Charles Turlinski

Prepared by:

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March 2013



REPORT CONTRIBUTORS

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Report Authors: Marcus C. England (Lead); Peter H. Bloom, Ph.D.; Scott Thomas; and Michael Kuehn,

Ph.D.

GIS & Maps: Marcus C. England

ABOUT BLOOM BIOLOGICAL, INC.

For over 35 years, Bloom Biological, Inc. (BBI) has provided biological consulting services to large and small clients. Our resume of services includes raptor and endangered species research, biological monitoring, impact assessment and permitting, conservation planning and geospatial analysis. Our innovative approach to our work has provided solutions to complex problems for clients and projects throughout a range of industries including alternative energy, residential development and the public sector. Collectively, the management and staff of BBI hold permits or memoranda of understanding for participating in the conservation and recovery of more than a dozen endangered or threatened species, as well as numerous other special-status species, in California and the western United States. Over the years, BBI has established an impeccable relationship with the resource agencies, project proponents, and environmental organizations by skillfully balancing the needs and objectives of land planning, resource conservation, and the public interest. In addition to our work in southern California, BBI biologists have worked throughout the western United States, and in Alaska, Peru, Ecuador, Belize, Costa Rica, India, Southeast Asia, Sweden and the western Pacific. BBI is a certified SBE, WBE and MBE.

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1.0 INTRODUCTION

Bloom Biological, Inc. (BBI) was retained by BrightSource Energy, Inc. (BrightSource) to conduct winter surveys for Golden Eagle (*Aquila chrysaetos*) for the proposed Palen Solar Electric Generating System project located in the vicinity of Desert Center in unincorporated Riverside County, California. Six weeks of studies conducted by BBI included the placement of seven randomly located camera traps with carcass bait, and visual surveys conducted while driving all accessible roads within the study area. These surveys only found definitive evidence for use of the area by one Golden Eagle during the winter months. This report presents the methods, results and conclusions of BBI's winter surveys.

2.0 STUDY AREA DESCRIPTION

The "Study Area" in this report includes the proposed Project Site (see Exhibit 1) and all lands within a ten mile radius of the Project Site. The Project Site is comprised of approximately 3,793 acres (1,535 hectares) located just north of Interstate 10 near the Chuckwalla Valley Road exit. On the Public Land Survey System, the Project Site is located in all or portions of Sections 27, 28, 29, 30, 31, 32, 33 and 34 of Township 5 South, Range 17 East and Sections 2, 3, 4, 5 and 6 of Township 6 South, Range 17 East of the U.S. Geological Survey's 7.5-minute *Sidewinder Well* quadrangle. Elevations on the Project Site range from approximately 440 feet (134 meters) above mean sea level near the northeastern boundary to 680 feet (207 meters) above mean sea level near the southwestern boundary. There are no significant terrain features on the Project Site, and terrain decreases gradually from southwest to the northeast.

The Study Area is bisected laterally by US Interstate Highway 10 with the Coxcomb Mountains, Palen Mountains, Palen Dry Lake and the Project Site on the north side of the highway. On the south side of Interstate 10, within the Study Area, is the northeastern portion of the Chuckwalla Mountains. Large alluvial plains extend from the mountain ranges leading down slope to sand dune complexes and dry lakes. Mountain ranges in the Study Area contain significant large rock outcroppings small cliffs suitable for Golden Eagle nesting. Large portions of the Palen Mountains were not accessible during this study.

Figure 1. Study area location relative to the state (left) and county (right)



3.0 REASON FOR SURVEYS

3.1 Golden Eagle Natural History

Kochert et al. (2002) provided a thorough description of the natural history of the Golden Eagle, noting that the species is found a variety of habitats located in a wide range of latitudes throughout the Northern Hemisphere. In North America, Golden Eagles are most common in the western half of the continent near

open spaces that provide hunting habitat, and generally with cliffs present for nesting sites. While northern populations of the species are migratory, often making trips of thousands of miles to the wintering grounds; southern populations (including those in southern California) tend to be resident year-round.

While Golden Eagles are capable of killing large prey such as cranes, wild ungulates, and domestic livestock, they primarily subsist on rabbits, hares, ground squirrels, and prairie dogs (Bloom and Hawks 1982, Olendorff 1976). Golden Eagles typically reach sexual maturity, form territories and begin nesting at four years of age. Pairs are generally thought to stay within the limits of their territory, which can measure well over 20 square kilometers and may contain as many as 14 nests (Bloom pers. obs.). The pair maintains and repairs one or more of these nests as part of their courtship. Over the course of a decade several of these nests will be used and will produce young while others may only be added to with fresh sticks. Most alternate nests are important in the successful reproduction of a pair of eagles. Kochert et al. (2002) also noted that the nesting season is prolonged, extending more than 6 months from the time the 1-3 eggs are laid until the young reach independence. A typical Golden Eagle raises an average of only 1 young per year and up to 15 young over its lifetime. Pairs commonly refrain from laying eggs in some years, particularly when prey is scarce. The number of young that Golden Eagles produce each year depends on a combination of weather and prey conditions.

3.2 Regulatory Protections

Regulatory protections for Golden Eagles obviate the need for thorough surveys to determine the status of Golden Eagles for projects occurring within their range and habitat. The intent is to determine the extent of potential direct, indirect and cumulative effects projects may have on eagles, avoid and or minimize these effects, assess the potential for incidental take during project operation, and monitor eagle populations in response to increase usage of desert environments for alternative energy projects. These measures are predominantly driven by the Bald and Golden Eagle Protection Act.

The Bald and Golden Eagle Protection Act (16 U.S.C. 668-668c), enacted in 1940, and amended several times since then, prohibits anyone, without a permit issued by the Secretary of the Interior, from "taking" eagles, including their parts, nests, or eggs. The Act provides criminal penalties for persons who "take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any bald eagle ... [or any golden eagle], alive or dead, or any part, nest, or egg thereof." The Act defines "take" as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb."

For purposes of the guidelines, "disturb" means: "to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, 1) injury to an eagle, 2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or 3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior."

In addition to immediate impacts, this definition also covers impacts that result from human-induced alterations initiated around a previously used nest site during a time when eagles are not present, if, upon the eagle's return, such alterations agitate or bother an eagle to a degree that interferes with or interrupts normal breeding, feeding, or sheltering habits, and causes injury, death or nest abandonment.

4.0 METHODS

All surveys were performed from January 23 to February 27, 2013 by BBI biologists Peter H. Bloom, Ph.D. and Scott Thomas (see resumes in Appendix C). Weather conditions were generally typical for the season, with temperatures during field visits ranging from 42° F to 72° F with calm to light winds and mostly

minimal cloud cover. All survey visits were between 0700h and 1830h. Survey dates, times and weather conditions are detailed in Table 1.

Camera trapping was used to gage the use of lands within the Study Area by Golden Eagles and other wildlife, as Golden Eagles will regularly utilize carrion as a food source when it is available. Carcasses were placed as bait, staked to the ground at locations selected based on habitat features spread out across the Study Area near accessible roads. Placement avoided the extreme edges of the Study Area in order to avoid attracting eagles from outside the Study Area. Reconyx™ 500 series cameras were staked within 15 feet of the carcass to capture all visiting predators and scavengers (see first photograph in Appendix B). The cameras were set to record activity at a minimum of a picture every 5 seconds and were in operation 24 hours per day from the time of set-up to removal of the station. Image data stored on the camera memory cards were retrieved and downloaded during weekly survey visits to document all activity. Stations were left operating from the initial set-up date until the project ended or until evidence of lack of activity dictated taking down or moving the station. Bait Station 1 was in operation for five weeks, Station 2 for four weeks, Stations 3 and 4 in operation for six weeks, Station 6 for five weeks and Station 7 for three weeks. Camera trapping operations were conducted constantly from January 23 to February 27, 2013. Bait station locations are shown on Exhibit 1.

Visual surveys for Golden Eagles and other avian predators were conducted during each Study Area visit by driving all accessible roads and stopping at random locations and scanning the skyline and potential perch locations such as cliffs, rock outcroppings and trees with high powered binoculars and spotting scopes. Observations were also conducted from the location of each bait station. Large areas of the Palen and Coxcomb Mountains, as well assmaller portions of the Chuckwalla Mountains, were not accessible and not adequately surveyed. The project site is flat and not suspected as Golden Eagle foraging or nesting habitat and was therefore not surveyed during this study. The project site is scheduled to be surveyed for all birds, including Golden Eagles, during Spring and Summer of 2013. The survey route is shown on Exhibit 1.

This combination of camera trapping and visual studies has been implemented by BBI elsewhere in the Mojave Desert and serves as a good tool (see Hamel et al. 2013) to establish a baseline for Golden Eagle usage of a particular study area.

Table 1. Field Survey Dates, Times, and Weather Conditions

Date	Time	Weather	Biologists
02/27/2013	0700-1500h	Start: 51° F, 0% cloud cover, Calm out of the N End: 67° F, 0% cloud cover, Light Wind out of the N No rain; No fog; No snow	Pete Bloom Scott Thomas
02/20/2013	0700-1600h	Start: 42° F, 76-99% cloud cover, Breeze out of the W End: 66° F, 51-75% cloud cover, Light Wind out of the NW No rain; No fog; No snow	Pete Bloom Scott Thomas
02/12/2013	0800-1730h	Start: 48° F, 0% cloud cover, Calm out of the N End: 66° F, 0% cloud cover, Calm out of the N No rain; No fog; No snow	Pete Bloom Scott Thomas
02/05/2013	0730-1800h	Start: 58° F, 0% cloud cover, Calm out of the W End: 72° F, 1-25% cloud cover, Calm out of the W No rain; No fog; No snow	Scott Thomas
01/29/2013	0800-1830h	Start: 55° F, 1-25% cloud cover, Breeze out of the W End: 68° F, 1-25% cloud cover, Breeze out of the SW No rain; No fog; No snow	Pete Bloom Scott Thomas
01/23/2013	0800-1700h	Start: 46° F, 76-99% cloud cover, Calm out of the N End: 65° F, 76-99% cloud cover, Calm out of the N No rain; No fog; No snow	Pete Bloom Scott Thomas

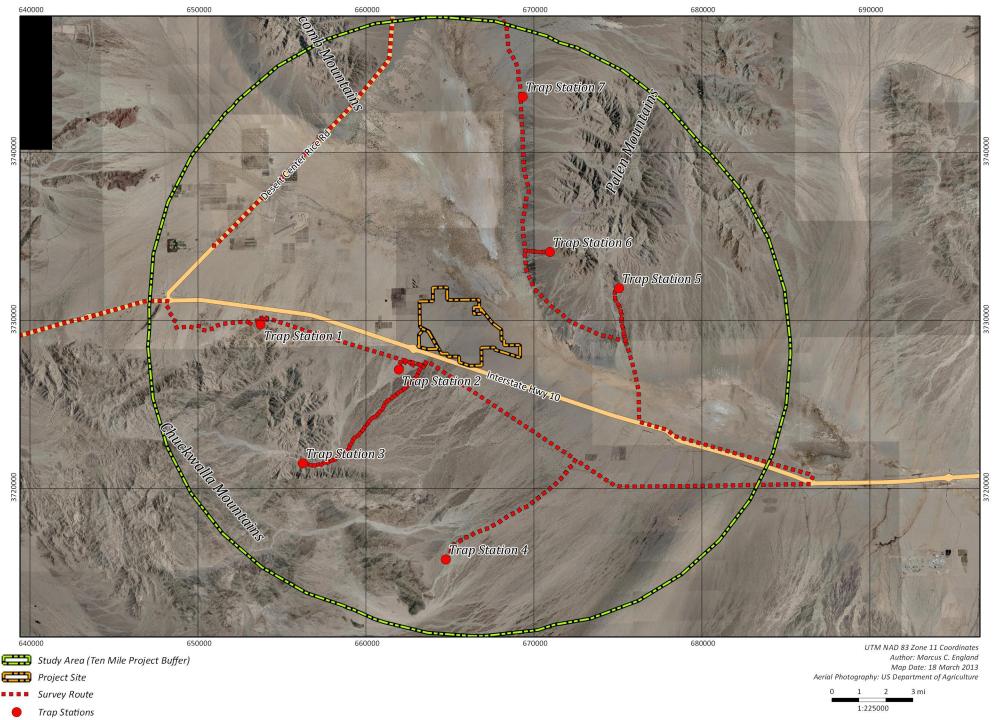


Exhibit 1: Study Area, Survey Route & Camera Trap LocationsPalen Solar Electric Generating System | Riverside County, California

5.0 RESULTS AND DISCUSSION

A single sub-adult Golden Eagle was present all 5 weeks at Bait Station 6 (see photos in Appendix B), feeding on the carcass 2-3 days each week, usually until the remainder of carcass was taken away at night by Coyotes (*Canis latrans*). The activity level by scavengers at all stations was high. All stations were visited by Common Ravens (*Corvus corax*) and Coyotes, and Station 4 was regularly visited by Turkey Vultures (*Cathartes aura*). There was enough activity at these stations that it should have drawn the attention of Golden Eagles to the Bait Stations if they were within the vicinity. Although not all adult Golden Eagles will readily land at carcasses, it is probable that more than one eagle would have been observed over a 4-6 week period of camera trapping with 4-7 stations had high numbers of eagles actually been present in the area. Six full-length survey sessions yielding no observations of eagles, other than at the #6 Bait Station on camera, is also indicative of low eagle winter usage within the Study Area.

No Golden Eagles were observed within the Study Area during visual surveys. Observations of common Golden Eagle prey items such as Black-tailed Jackrabbits (*Lepus californicus*) and small rodents were regular (< 3 per each survey day) during the six week study, with jackrabbits being observed almost every survey in numbers of 1-3 per survey. Observations of White-tailed Antelope Squirrels (*Ammospermophilus leucurus*), another common prey species for desert raptors, were also regularly observed throughout the study. A complete list of all wildlife species detected during BBI's surveys is provided as Appendix A.

6.0 LITERATURE CITED

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APPENDIX A. FAUNAL COMPENDIUM

Birds

Accipitriformes - Hawks, Kites, Eagles, and Allies | Cathartidae - New World Vultures

Turkey Vulture Cathartes aura

Accipitriformes - Hawks, Kites, Eagles, and Allies | Accipitridae - Hawks, Kites, Eagles, and Allies

Northern Harrier *Circus cyaneus* Red-tailed Hawk *Buteo jamaicensis* Ferruginous Hawk *Buteo regalis* Golden Eagle *Aquila chrysaetos*

Falconiformes - Caracaras and Falcons | Falconidae - Caracaras and Falcons

American Kestrel *Falco sparverius* Merlin *Falco columbarius*

Columbiformes - Pigeons, and Doves | Columbidae - Pigeons and Doves

Eurasian Collared-Dove Streptopelia decaocto

Strigiformes - Owls | Strigidae - Typical Owls

Burrowing Owl Athene cunicularia

Coraciiformes - Rollers, Motmots, Kingfishers, and Allies | Alcedinidae - Kingfishers

Belted Kingfisher Ceryle alcyon

Passeriformes - Passerine Birds | Tyrannidae - Tyrant Flycatchers

Say's Phoebe Sayornis saya

Passeriformes - Passerine Birds | Laniidae - Shrikes

Loggerhead Shrike Lanius Iudovicianus

Passeriformes - Passerine Birds | Corvidae - Crows and Jays

Common Raven Corvus corax

Passeriformes - Passerine Birds | Alaudidae - Larks

Horned Lark Eremophila alpestris

Passeriformes - Passerine Birds | Remizidae - Penduline Tits and Verdins

Verdin Auriparus flaviceps

Passeriformes - Passerine Birds | Troglodytidae - Wrens

Rock Wren Salpinctes obsoletus

Passeriformes - Passerine Birds | Polioptilidae - Gnatcatchers and Gnatwrens

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Black-tailed Gnatcatcher Polioptila melanura

Passeriformes - Passerine Birds | Mimidae - Mockingbirds and Thrashers

Sage Thrasher Oreoscoptes montanus

Passeriformes - Passerine Birds | Ptilogonatidae - Silky-flycatchers

Phainopepla Phainopepla nitens

Passeriformes - Passerine Birds | Emberizidae - Emberizids

Chipping Sparrow Spizella passerina Sage Sparrow Amphispiza belli

Passeriformes - Passerine Birds | Fringillidae - Fringilline and Cardueline Finches and Allies

House Finch Carpodacus mexicanus

Mammals

Lagomorpha | Leporidae

Black-tailed Jackrabbit *Lepus californicus*

Rodentia | Sciuridae

White-tailed Antelope Squirrel Ammospermophilus leucurus

Carnivora | Canidae

Coyote Canis latrans Gray Fox Urocyon cinereoargenteus

Carnivora | Felidae

Bobcat Lynx rufus

Artiodactyla | Cervidae

Mule Deer Odocoileus hemionus

Reptiles

Squamata | Phrynosomatidae

Side-blotched Lizard Uta stansburiana

APPENDIX B. CAMERA TRAP PHOTOGRAPHS



Above: Camera at trap station 1.



Above: Camera at trap station 2.



Above: Bobcat (Lynx rufus) at trap station 1.



Above: Gray Fox (*Urocyon cinereoargenteus*) at trap station 3.



Above: Turkey Vultures (Cathartes aura) at trap station 4.



Above: Red-tailed Hawk (Buteo jamaicensis) at trap station 6.



Above: Golden Eagle (Aquila chrysaetos) at trap station 6.



Above: Golden Eagle (Aquila chrysaetos) at trap station 6.

APPENDIX C. RESUMES

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Peter H. Bloom, Ph.D. | President

Qualifications

Peter Bloom has been a professional environmental consultant for more than 35 years, principally in California. He specializes in the environmental sciences, is an internationally recognized expert in raptor biology and conservation and is considered one of the best all-around field biologists in California with his extensive knowledge and experience with all terrestrial vertebrate groups (amphibians, reptiles, birds, and mammals) and the vascular plants. Corporate clients for whom he has prepared or contributed to the production of numerous biological assessments and environmental impact reports include The Irvine Company, Rancho Mission Viejo, Tejon Ranch, Newhall Ranch, Ahmanson Ranch, Metropolitan Water District, and Los Angeles Department of Water and Power. He has also worked extensively with the Department of Defense, U.S. Fish and Wildlife Service, National Park Service, Bureau of Land Management, U.S. Forest Service, California Department of Fish and Game, and various non-profit conservation groups providing valuable research and advice, primarily on raptor ecology and conservation. He has conducted avian and herpetological research in the western United States, Alaska, Peru, Ecuador, and India and has been responsible for a wide variety of biological, ecological, and conservation studies ranging from local biological assessments to regional conservation planning. Dr. Bloom has published more than 30 peer-reviewed scientific papers and technical reports and taught California natural history at a local junior college for more than 12 years.

Professional Experience

As founder and President of Bloom Biological, Inc., Dr. Bloom has prepared numerous biological assessments and worked on an array of avian research projects in the western United States, Alaska, Peru, Ecuador, and India, spending over 600 hours conducting helicopter and fixed-wing nest survey work and aerial radio-tracking of eagles, California condors, hawks, and herons. He has also been responsible for conducting or supervising:

- fiber-optics and electrical powerline installation surveys and construction monitoring;
- surveys of nesting and wintering birds of prey for the California Department of Fish and Game (CDFG), BLM, U.S. Forest Service, Department of Defense, and numerous private land owners;
- transponder and radio-tagging of adult California red-legged frogs in Ventura County;
- focused surveys for California gnatcatcher, southwestern willow flycatcher, least Bell's vireo, yellow-billed cuckoo, Swainson's hawks, golden eagles, arroyo toad, California red-legged frog, desert tortoise, Pacific pond turtle (including trapping and surveying habitat), coast horned lizard, flat-tailed horned lizard, Belding's orange-throated whiptail, coastal whiptail, southern rubber boa, coastal patch-nosed snake, California glossy snake, two-striped garter snake (including trapping and surveying habitat), red-diamond rattlesnake, southern flying squirrel, and Pacific pocket mouse;
- general herpetological, small mammal, breeding and winter bird surveys in southern California;
- translocation of several hundred arroyo toads at Camp Pendleton Marine Corps Base;
- sensitive herpetological, mammal, and raptor surveys for the Transportation Corridor Agency in Orange County; and
- a raptor status and management plan for Naval Weapons Station, Seal Beach and Fallbrook Detachment.

As a research biologist at the Western Foundation of Vertebrate Zoology, served on the Science Advisory Board of the South Orange County Natural Communities Conservation Program. During his tenure there he:

- provided herpetological input into the Orange County environmental GIS and Cleveland National Forest environmental inventory.
- managed a long-term (30 yr.) raptor ecology study in California;
- managed a successful Great Blue Heron mitigation project designed to increase numbers of nesting herons through placement of artificial nest platforms;
- supervised and performed predator management activities for USFWS related to protection of California least terns, snowy plovers, and light-footed clapper rails in southwestern California from avian and other

vertebrate predators (locations included Vandenberg Air Force Base, Naval Weapons Station Seal Beach, Batiquitos Lagoon, Port of Long Beach, Port of San Diego, and Tijuana Slough National Wildlife Refuge);

- supervised a two year CalTrans radio-telemetry study of nesting peregrine falcons and their relationship to California least terns in southwestern California; and
- organized and finished seven years of a MAPS passerine monitoring station.
- Together with sub-permittees, banded ~ 45,000 birds, mostly nestlings (1970 2013).

While serving as a research biologist and advisor in India, responsibilities included educating local biologists in the various techniques needed to capture birds, and conducting radio-telemetry research.

Served as thesis advisor to seven students at CSU Long Beach, one student at CSU Humboldt, and one student at CSU Fullerton.

As research biologist for the National Audubon Society, was responsible for writing the grant proposal and ultimately the successful award of two grants totaling \$300,000 for six years of fulltime research on the ecology of southern California raptor populations. Responsibilities included project management, personnel selection, supervision of 12 volunteers, proposal and budget preparation, method design, data analysis, report writing, and publication of results. Directed the effort to capture all wild free-flying California condors for transmitter placement or captive breeding. Radio-tracked condors and conducted contaminant studies involving condors and 180 golden eagles.

As a research biologist at the University of California, Santa Cruz, was principal investigator on a three year study designed to determine the status of northern goshawk populations in California for CDFG.

Trapped and placed transmitters on great gray owls for the National Park Service , prairie falcons for CDFG, and peregrine falcons in Peru for the Bodega Bay Institute of Pollution Ecology.

As a wildlife biologist for BLM, was principal investigator of a study designed to determine the status of the Swainson's hawk in California. Surveyed all semi-arid and desert regions, reviewed literature and museum records, assessed reproduction, banded adults and young, and prepared the final report. His efforts contributed to the state-listing of Swainson's hawk as threatened.

Surveyed and reported on the ecology and distribution of raptors inhabiting the 200-square-mile Camp Pendleton Marine Corps Base.

While serving as a biological technician for BLM, conducted reptile, amphibian, small mammal, and avian surveys of 3.25 million acres of public land as part of a grazing EIS.

Education

Ph.D., Biology, College of Natural Resources, University of Idaho, Moscow

M.S., Biology, California State University, Long Beach B.S., Zoology, California State University, Long Beach

Awards

Graduation with Honors – Best Thesis Award School of Natural Sciences 1979

The Wildlife Society Western Section: Professional of the Year, 2005

Association of Field Ornithologists: Bergstrom Award, 1981

The Nature Conservancy: \$27,000 for satellite transmitters, 2004 and 2006

Permits & Certifications

Federal endangered species recovery permit (TE-787376) for red-legged frog (including placement of transmitters and transponders), arroyo toad, California gnatcatcher (including banding), least Bell's vireo (including banding), southwestern willow flycatcher (including banding), California least tern, snowy plover, peregrine falcon (banding), bald eagle (banding), and Swainson's hawk (banding).

California scientific collecting permit and memorandum of understanding for all raptors, including state-



threatened Swainson's hawk, reptiles, amphibians, small mammals, and many additional species of birds, including state-threatened western yellow-billed cuckoo, California least tern, snowy plover, peregrine falcon, and bald eagle

Federal Master Banding Permit No. 20431

Federal Bird Marking and Salvage Permit
Predator Management Permit

Migratory Bird Relocation Permit (burrowing owl and other species)

Brown-headed cowbird trapping authorization

Desert Tortoise Council-approved for conducting desert tortoise monitoring surveys

Selected Publications

Home range and habitat use of Cooper's Hawks in urban and natural areas. C.A. Lepczyk and P.S. Warren (eds). Studies in Avian Biology No. 45. www.ucpress.edu/go/sab. 2012. (with Chiang, S.N., P.H. Bloom, A.M.Bartuszevige and S. E. Thomas)

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Reproductive performance, age structure, and natal dispersal of Swainson's hawks in the Butte Valley, California.



Journal of Raptor Research 29:187-192. 1995. (with B. Woodbridge and K. K. Finley)

The biology and current status of the long-eared owl in coastal southern California. Bulletin of the Southern California Academy of Sciences 93:1-12. 1994.

Red-shouldered hawk home range and habitat use in southern California. Journal of Wildlife Management 57:258-265. 1993. (with M. D. McCrary and M. J. Gibson)

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Lead hazards within the range of the California condor. The Condor 92:931-937. 1990. (with O. H. Pattee, J. M. Scott, and M. R. Smith)

Investigations of the decline of Swainson's hawk populations in California. Journal of Raptor Research 23:63-71. 1990. (with R. W. Risebrough, R. W. Schlorff, and E. E. Littrell)

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Scott Thomas | Director of Field Operations

Qualifications

Mr. Thomas has over 20 years of experience working with raptors, songbirds, small mammals, reptiles, and amphibians. He has banded several thousand raptors, including Golden Eagle; sea-eagles; Osprey; Swainson's, Redtailed, and Red-shouldered Hawks; White-tailed Kite; Spotted and Burrowing owls, and more than 500 songbirds. He has extensive experience trapping and installing radio/satellite telemetry equipment on Red-tailed and Cooper's Hawks, Turkey Vultures, Golden Eagles, and numerous songbirds. He has performed and managed various raptor survey and monitoring studies and has served as Conservation Director for Audubon California and Raptor Program Coordinator and Regional Conservation Coordinator for the Raptor Research Foundation.

Professional Experience

Orange County Conservation Director for Sea and Sage Audubon Society and Audubon California. Duties have included: management of science programs, the Orange County Raptor Research Project, and other avian research programs; liaison and conservation with Starr Ranch Audubon Sanctuary; development of the monthly Science and Conservation Lecture Series; and development of the raptor and avian urban nesting habitat protection program. Responsibilities have also included oversight of chapter interactions with public agencies and the private sector development community.

Biological monitor at the Sunshine Canyon Landfill in Sylmar, California. Responsibilities included general biological monitoring, avian breeding surveys, raptor surveys, mist netting of several hundred passerines to determine breeding and range status, operation and management of 5 miles of reptile pit-fall traps, and capturing and relocating over 500 individuals of 15 reptile species.

Performed trapping and marking studies, habitat assessments and management programs, nest surveys, and monitoring studies for raptors and other birds. Highlights in recent years have included trapping and installing satellite transmitters on Golden Eagles in Sweden and Red-tailed Hawks and Turkey Vultures in southern California.

Completed a 15-month raptor survey for the PDV Wind Turbine Facility in the Antelope Valley. Project objectives were to survey and document resident, breeding, and migratory raptors, focusing on Swainson's Hawks, Golden Eagles, and other migrant raptors.

Performed breeding Swainson's Hawk surveys in the Antelope Valley, Owens Valley, and northeastern California. Captured and color marked 25 individuals in cooperation with the California Department of Fish and Game, and University of California, Berkeley.

Performed raptor surveys in the Las Virgenes Canyon Reserve (formerly Ohmanson Ranch) and breeding raptor surveys and subsequent construction monitoring in Moorpark, California. Performed raptor surveys in the Santa Monica Mountains Conservancy open spaces, focusing on nesting and breeding success.

Conducted raptor research and monitoring projects on the Irvine Ranch Land Reserve, the Orange County Water District at Prado Basin, and the Rancho Mission Viejo Land Conservancy. Tasks included a satellite telemetry study, monitoring of natal dispersal and philopatry, and annual report preparation.

Monitored wintering Burrowing Owls and Peregrine Falcons and conducted pre-construction surveys for breeding passerines and raptors for the City of El Segundo.

Served as field manager for a 3-year survey of Burrowing Owl densities in the Imperial Valley coordinating the work of 15-20 field biologists, and performed protocol surveys that included the capture, banding and passive relocation of approximately 15 Burrowing Owl pairs. Performed a Burrowing Owl survey and translocation project for Cal

Trans in south San Diego County, which included the capture and translocation of breeding pairs. Conducted protocol Burrowing Owl surveys with CH2M Hill Inc. in Western Riverside County. Monitored and banded Burrowing Owls on the Seal Beach Naval Weapons Station, California. Performed Burrowing Owl presence/absence and breeding surveys in Menifee, Rubidoux, and Victorville, California.

Assisted with protocol Spotted Owl surveys in the Santa Ana Mountains.

Developed and managed the Orange County (California) Cactus Wren project in coordination with the Audubon Society, The Nature Conservancy, and the Nature Reserve of Orange County, which includes banding Cactus Wrens and conducting nesting surveys.

Performed numerous Arroyo Toad surveys and monitoring studies.

Education A.S. (Environmental Science) Saddleback College

B.S. (Biology) California State University

Permits & California and federal permits to handle, take blood, capture, and band all diurnal and nocturnal raptors Certifications

Federal bird marking and salvage sub-permit, including eagles; approved to mark, install telemetry equipment, and

take blood samples

California scientific collectors permit no. 801128-03

Federal banding sub-permit 20431-AT Federal bird marking and salvage permit

Federal 10A(1) endangered species sub-permit TE-787376 for arroyo toad and California gnatcatcher

Federal burrowing owl translocation permit MB0022490 Federal migratory bird predator management authorization

Federal migratory bird avian relocation permit

Desert tortoise egg handling and burrow construction certificate

Desert Tortoise Council-approved for conducting desert tortoise monitoring surveys

Southwestern Willow Flycatcher Workshop



BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION OF THE STATE OF CALIFORNIA

1516 NINTH STREET, SACRAMENTO, CA 95814 1-800-822-6228 – WWW.ENERGY.CA.GOV

AMENDMENT

FOR THE PALEN SOLAR ELECTRIC GENERATING SYSTEM

Docket No. 09-AFC-7C PROOF OF SERVICE (Revised 3/26/13)

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After docketing, the Docket Unit will provide a copy to the persons listed below. Do not send copies of documents to these persons unless specifically directed to do so.

KAREN DOUGLAS Commissioner and Presiding Member

David Hochschild Commissioner and Associate Member

Raoul Renaud Hearing Adviser

Galen Lemei Adviser to Presiding Member

Jennifer Nelson Adviser to Presiding Member

Jim Bartridge Adviser to Associate Member

Kelly Foley Adviser to Associate Member

Eileen Allen Commissioners' Technical Adviser for Facility Siting

DECLARATION OF SERVICE

I, Marie Fleming, declare that on April 8, 2013, I served and filed copies of the attached, **PALEN SOLAR ELECTRIC GENERATING SYSTEM WINTER 2013 GOLDEN EAGLE SURVEY RESULTS** dated March 2013. This document is accompanied by the most recent Proof of Service, which I copied from the web page for this project at: http://www.energy.ca.gov/sitingcases/palen/compliance/.

The document has been sent to the other parties in this proceeding (as shown on the Proof of Service) and to the Commission's Docket Unit, as appropriate, in the following manner:

(Check one)

	For service to all other	parties and filing	with the Docket Un	it at the Energy	Commission:
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<u>X</u>	I e-mailed the document to all e-mail addresses on the Service List above and personally delivered it or deposited it in the US mail with first class postage to those parties noted above as "hard copy required"; OR
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I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct, and that I am over the age of 18 years.

Dated: April 8, 2013

Marie Fleming

ATTACHMENT DR 40d-6 GOLDEN EAGLE SPRING 2013 NEST RESULTS FOR EARLY APRIL SURVEYS





June 5, 2013

California Energy Commission Dockets Unit 1516 Ninth Street Sacramento, CA 95814-5512

Subject: PSEGS SPRING 2013 GOLDEN EAGLE NEST SURVEY RESULTS

INTERIM REPORT

PALEN SOLAR ELECTRIC GENERATING SYSTEM

DOCKET NO. (09-AFC-7C)

Enclosed for filing with the California Energy Commission is the electronic version of **PSEGS SPRING 2013 GOLDEN EAGLE NEST SURVEY RESULTS INTERIM REPORT**, for the Palen Solar Electric Generating System (09-AFC-7C).

Sincerely,

Marie Fleming



April 15, 2013

Ms. Alice Karl

[via email]

SUBJECT: Initial Palen Eagle Nest Survey Results

Dear Ms. Karl:

The following is an interim report to let you know what we have found to date from Golden Eagle ground and helicopter surveys during the early spring effort. I still advise that we perform a complete aerial survey of the Chuckwalla Mountains, but that we wait until the end of BHS lambing season (July 1) when we can fly below 1,500 ft.

Flown by Pete Bloom and Chris Niemela on April 6th and 7th, 2013. No Golden Eagle nests were known from within the 10 mile radius of the project and also located within the Palen Mountains (BLM files). The Palen Mountains were flown at approximately 500 feet, resulting in three potential golden eagle nests. Two nests are old while the third is a more recently active nest that over the decades has probably been alternated between pairs of RTHAs and Golden Eagles (most recently by RTHAs). Several active and inactive RTHA territories were identified, all in cliffs.

The known nests of the Chuckwalla Mountains were flown at > 1,500 ft. (to avoid BHS lambing issues) for the purpose of viewing nest locations, perhaps seeing eagles, and identifying and establishing a ground route whereby we might return on the ground to verify the status of known nests and known nest cliffs. No suggestion of active Golden Eagle nesting activity (eagles, eagle white wash, fresh eagle nest material, etc.) was observed at any of these sites. However, 1,500 feet is too great a distance to provide any measure of certainty. No other potential eagle nest locations in the Chuckwallas were examined. One Golden Eagle nest slightly outside the 10 mile radius and on a prominent isolated cliff was determined to be inactive by direct visual observation of the nest from the helicopter. After several hours of morning observations in early April, all other known nests appeared to be inactive eagle nests via later ground surveys. Some of these were occupied by other species, and verification of status will be determined by a proposed early July helicopter survey effort.

No eagle nests are known from the south end of the Coxcomb Mountains and also within the 10 mile radius buffer of the project. The portion of the Coxcomb Mountains (southern most end) within the 10 mile radius of the project and within Joshua Tree National Park was not surveyed by helicopter, but was examined from the ground. No Golden Eagle nests were detected.

The entire approximately 22 mile length of east-west trending DPV2 power lines within the Palen 10 mi radius survey area were checked by helicopter from < 200 feet. While no Golden Eagle nests were found, nests of active RTHAs were abundant. Follow-up helicopter surveys are proposed for mid May in the Palen Range and again after July 1 at the end of the BHS lambing season in the Chuckwalla Mountains.

Sincerely,

BLOOM BIOLOGICAL, INC.

Peter H. Bloom

Peter H. Bloom Zoologist/President



BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION OF THE STATE OF CALIFORNIA

1516 NINTH STREET, SACRAMENTO, CA 95814 1-800-822-6228 – www.energy.ca.gov

PALEN SOLAR ELECTRIC GENERATING SYSTEM AMENDMENT

Docket No. 09-AFC-7C PROOF OF SERVICE (Revised 05/23/2013)

SERVICE LIST:

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Hildeberto Sanchez, Eddie Simmons, and Laborers' International Union of North America, Local Union No. 1184 c/o Richard T. Drury Christina M. Caro Lozeau|Drury LLP 410 12th Street, Suite 250 Oakland, CA 94607 richard@lozeaudrury.com christina@lozeaudrury.com

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COMMISSION DOCKET UNIT

California Energy Commission Docket Unit Attn: Docket No. 09-AFC-7C 1516 Ninth Street, MS-4 Sacramento, CA 95814-5512 docket@energy.ca.gov

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DECLARATION OF SERVICE

I, Marie Fleming, declare that on June 5, 2013, I served and filed copies of the attached <u>PSEGS SPRING 2013</u> <u>GOLDEN EAGLE NEST SURVEY RESULTS INTERIM REPORT</u>, dated April 15, 2013. This document is accompanied by the most recent Proof of Service, which I copied from the web page for this project at: http://www.energy.ca.gov/sitingcases/palen/compliance/.

The document has been sent to the other persons on the Service List above in the following manner:

(Check one)

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X	I e-mailed the document to all e-mail addresses on the Service List above and personally delivered it or deposited it in the U.S. mail with first class postage to those parties noted above as "hard copy required"; OR
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	e under penalty of perjury under the laws of the State of California that the foregoing is true and correct, and n over the age of 18 years.

Marie Fleming

ATTACHMENT DR 40d-7 STATE JURISDICTIONAL WATERS





June 5, 2013

California Energy Commission Dockets Unit 1516 Ninth Street Sacramento, CA 95814-5512

Subject: PSEGS SUMMARY OF SURVEY FOR JURISDICTIONAL STATE

WATERS

PALEN SOLAR ELECTRIC GENERATING SYSTEM

DOCKET NO. (09-AFC-7C)

Enclosed for filing with the California Energy Commission is the electronic version of **PSEGS SUMMARY OF SURVEY FOR JURISDICTIONAL STATE WATERS**, for the Palen Solar Electric Generating System (09-AFC-7C).

Sincerely,

Marie Fleming

Alice E. Karl, Ph.D. P.O. Box 74006 Davis, CA 95617

5 June 2013

Ms. Ann Crisp California Energy Commission 1516 9th St. Sacramento, CA 95814-5512

Re: Palen Solar Electric Generating System (PSEGS), Summary of Survey for Jurisdictional State Waters

Dear Ms. Crisp,

This letter transmits a summary of the methods and results of the supplemental survey for State Waters for the PSEGS Modified Linear Facilities. A jurisdictional delineation was prepared for the entire project site in 2009 (AECOM 2009). The current survey only addresses the new and altered linear features, specifically the gen-tie extension and the additional natural gas pipeline, to supplement the existing delineation.

Methods for Delineating State Waters on the PSEGS Modified Linear Facilities

Prior to delineating the potential jurisdictional State Waters on the new and altered linear features, the 2009 State Waters Jurisdictional Delineation for PSPP (AECOM 2009) and newer guidance from the CEC (Vyverberg 2010) were reviewed to ensure that the 2013 PSEGS surveys incorporated the more recent recognition of hydrological conditions that are specific to the arid southwest and was also consistent with the previous, approved delineation for PSPP. The surveyor for the 2013 PSEGS State Waters assessment, Dr. Alice Karl, also brought to the assessment over three decades of experience examining and analyzing factors associated with geomorphology and hydrology in the southwestern deserts as they relate to wildlife. Given that wildlife values associated with streams are the basis of the 1602 permit, this experience is assumed to be beneficial for assessing State Waters. Table 1 provides a matrix that defines the channel types present on the PSEGS new and altered linear features, in the context of the earlier delineation and the more current CEC guidance. Those hydrological features, as they occur on the PSEGS Modified Linear Facilities, are more thoroughly described below:

Primary Channel – Distinct, arboreal channel in which one of the dominant species is a riparian tree species (typically ironwood [*Olneya tesota*] on the PSEGS Modified Linear Facilities, but occasionally palo verde [*Parkinsonia florida*]); other dominant species are primarily upland species (creosote bush [*Larrea tridentata*], white bursage [*Ambrosia dumosa*]) (Photograph 2). Other wash-dependent species (e.g., cheesebush [*Ambrosia salsola*], desert lavender [*Hyptis emoryi*], chuckwalla bush [*Bebbia juncea*], belloperone [*Justicia californica*], catclaw acacia [*Senegalia greggii*]) may be present but are generally only sparsely present except in deep, well-developed washes (Photograph 1). Primary channels are usually, but not necessarily, broad and/or incised.

Table 1. A comparison of the PSEGS 2013 channel designation with those of Vyverberg (2010) and the PSPP jurisdictional delineation (AECOM 2009).

Jurisdictional State Waters Category	PSEGS 2013 Designation	Analogous Vyverberg Designation	PSPP 2009 Designation	
Desert Dry Wash	Primary channel	Single-thread channel	Vegetated	Primary wash
Woodland	Secondary channel	Single-thread or discontinuous channel	ephemeral wash (i.e., with wash-	Secondary wash
	Riparian interfluves are a feature of larger and deeper channels that do not occur in this part of PSEGS; there, they are considered an integral part individual channel morphology rather than a discrete channel feature	Riparian interfluves are part of a larger, compound channel, not occurring in this portion of PSEGS	dependent vegetation)	Riparian interfluve
	Sheet flood - a discrete hydrological feature replete with highly braided primary and secondary channels, discontinuous channels, and rilled to hydrologically altered surfaces between those channels	Sheet flood	As a unit, sheet flood was not included as a State Water; individual channels in the sheet flood areas were assessed for inclusion as a State Water	
Unvegetated Ephemeral Dry Wash UH - Single-thread or discontinuous channel with upland vegetation, but no or only rare wash-dependent vegetation		Discontinuous channel	Unvegetated ephemeral wash (no or only occasional wash-dependent vegetation)	
	U _L -Single-thread or discontinuous channel, with a low density of upland vegetation and no or very rare washdependent vegetation	Discontinuous channel	Not included as a	
	Swale	Discontinuous channel	Not included as a	State Water

Secondary Channel –At PSEGS, these channels are typically, narrow, shallow, single-thread and often discontinuous channels with scattered to occasional riparian trees; there

are few individuals of other wash-dependent species. Upland species dominate the shrub layer. (See Photographs 3 and 4).

Sheet or Sheet Flood – These are hydrologically dynamic zones where water has obviously flowed overland, both in and out of channels, during intensive storm events. These zones comprise a highly braided system of single-thread and discontinuous channels - including both Desert Dry Wash Woodland (DDWW) (Photographs 5 and 6) and "unvegetated" ephemeral washes (see below) - and interfluvial spaces where gravels have been rilled by the action of flowing water (Photograph 7). Sheet zones are considered a unit, rather than a series of discrete individual channels, because internal channel morphologies are subject to rapid change and because the entire zone is important for seed and sediment transport.

Desert Dry Wash Woodland – DDWW includes both individual arboreal washes (*sensu* Holland [1986]; e.g., Photograph 1) and actual woodland. The latter is a subset of sheet flood described above, in which riparian trees (typically ironwood at PSEGS) are scattered throughout the sheet zone (Photographs 5 and 6). While common along the edges of primary and secondary washes, the trees are not always confined to distinct channels in sheet flood zones. Cheesebush is the most common riparian shrub species in the sheet flood DDWW at the PSEGS Modified Linear Facilities.

"Unvegetated" Ephemeral Wash (U_H) – These are primarily discontinuous channels, but may be single thread for part of their reaches. These washes are not actually unvegetated and, in fact, upland vegetation reaches a higher density there than outside of the channels, as a result of the higher water availability (Photograph 8). This higher density of shrub-layer species provides greater cover and sequestering/nesting opportunities for wildlife, as well as increased foraging opportunities due to the trapping of sediment and seeds, resulting in a higher density and diversity of understory plants. Wash-dependent vegetation, typically small ironwood trees or shrubs, may be occasionally present. These channels may or may not have distinct beds and banks.

"Unvegetated" Ephemeral Wash, Low Shrub Density (U_L) – These are the same as U_H , except that shrub-layer density is low; individuals of riparian species are rare (Photograph 9).

Swale – Swales are typically discontinuous, very shallow depressions less than approximately 5 cm deep that are either completely isolated or ultimately connect to a channel. On the PSEGS Modified Linear Facilities, they often arise on desert pavement patches. Vegetation is variable, ranging from herbaceous species only, to scattered, primarily upland, shrubs (Photograph 8).

To quantify Waters of the State on the Modified Linear Facilities, both edges of each linear right-of-way (ROW; Figure 1) were walked for their entire lengths, to precisely map and describe all channels. Waypoints were taken for each channel that crossed the ROW boundaries, typically

at both sides of the channel where it crossed the ROW boundary. Waypoints were taken at the outer, upper edge of each channel to be both conservation-oriented and account for the three-meter accuracy of the Global Positioning System (GPS) unit (Garmin 76CSx). For very narrow channels (less than approximately a meter wide, one waypoint was sometimes taken for the channel, rather than two. The following variables were measured and described for each channel crossed:

- Channel type (see Table 1)
- Channel width, depth and substrate
- Shrub, perennial grass, and tree species present, and relative abundance of each (i.e., dominant, common or occasional)
- Presence of wash-dependent vegetation
- Height of tree species, where present

All channels were mapped to show channel direction and continuity, where present, from ROW edge to edge.

To calculate acreages of State Waters, the Universal Transverse Mercator (UTM) locations for each waypoint and channel type were mapped using Global Information System (GIS). The channels were then fully delineated internally in the narrow ROWs using the field maps and data and aerial photography. In all cases, the edges of channels or sheet areas were mapped conservatively (i.e., conservation-oriented). For instance, where a sheet area that crossed the ROW was composed primarily of unvegetated washes, it was mapped as DDWW if the area was clearly part of a larger DDWW system upslope or down. The percent cover of riparian vegetation in DDWW was conservatively assumed to be comparable to the higher quality wash in the southwestern portion of the solar facility, mapped in 2009 for the PSPP jurisdictional delineation (AECOM 2009).

Summary of State Waters on the PSEGS Modified Linear Facilities

A total of 13.88 acres of State Waters was delineated on the PSEGS Modified Linear Facilities (Table 2). DDWW and Unvegetated Ephemeral Washes totaled 7.44 and 6.44 acres, respectively, which is 4.44 and 6.44 acres, respectively, more than the original estimate provided in the response to Data Request 5 (Centerline 2013). These increases were due to the more recent recognition of hydrological conditions and stream processes that are specific to the arid southwest and important for wildlife values.

Table 2. Acreage of State Waters on PSEGS Modified Linear Facilities, and Changes from Acreage Reported in DR-5.

Linear Facility	State Waters Type	Acres	Acreage Estimate d for DR- 5 ¹	Additional Acreage for Compensatio n
	Desert Dry Wash Woodland	6.19	2.2	3.99
	Unvegetated Ephemeral Wash	5.97	0	5.97
	Non-Waters (Sonoran Creosote Bush Scrub)	4.82		
Gen-Tie	Total Mapped Vegetation Acres	16.98		
	Gen-tie corridor within I-10 ROW	0.66		
	Gen-tie corridor within Red Bluff Substation	1.34		
	Total Acres in gen-tie corridor	18.98 ²	18.92	
	Desert Dry Wash Woodland	1.25	8.0	0.45
	Unvegetated Ephemeral Wash	0.47	0	0.47
Gas Pipeline	Non-Waters (Sonoran Creosote Bush Scrub)	1.5	2.42	
	Total Mapped Vegetation Acres	3.22		
	Gas line corridor within I-10 ROW	0.34		
	Total Acres in gas line corridor	3.56	3.6	
Total in corridor,	Desert Dry Wash Woodland	7.44	3.0	4.44
outside I-10	Unvegetated Ephemeral Wash	6.44	0	6.44
ROW or Red Bluff Substation	Total State Waters	13.88	3.0	10.88

^{1.} In DR-5, acreage for the gen-tie was not calculated to be more than the permitted gen-tie. That acreage is included here.

Maps of the State Waters are provided in Figure 1. Attachment 1 provides the original data sheets for the State Waters assessment.

LITERATURE CITED

AECOM (EDAW). 2009. Palen Solar Power Project Biological Jurisdictional Delineation Report for Regulated Waters of the United States and State. Riverside County, California. Submitted to Solar Millennium, LLC, Berkeley, CA and Chevron Energy Solutions, San Francisco, CA. 116 pp.

^{2.} Includes 0.06 acres mapped inside the permitted gen-tie corridor (See Figure 2.1-1).

- ---. 2010. Palen Solar Power Project Docket No. 09-AFC-7. Preliminary Spring 2010 survey results corrected and preliminary impact calculations. Submitted to the California Energy Commission, Sacramento, CA.. 14 pp.
- Centerline, LLC. 2013. Palen Solar Holdings, LLC's response to CEC Staff Data Request 1 (1-18). Palen Solar Electric Generating System Docket No. 09-AFC-7C. Filed with the CEC on 25 March 2013.
- Holland, R. 1986. Preliminary descriptions of the terrestrial natural communities of California. California Department of Fish and Game, Nongame Heritage Program, Sacramento, CA. 155 pp.
- Vyverberg, K. 2010. A review of stream processes and forms in dryland watersheds. California Department of Fish and Game, Sacramento, CA. 36 pp.

Please feel free to contact me if you have further questions regarding these data. I can be reached at (530) 304-4121 or heliophile@mindspring.com

Respectfully,

Alice E. Karl, Ph.D.

Sliv Etal

Attachments:

Figure 1. Location of the PSEGS Modified Linear Facilities Surveyed in 2013.

Figure 2. Maps of Jurisdictional State Waters on the PSEGS Modified Linear Facilities

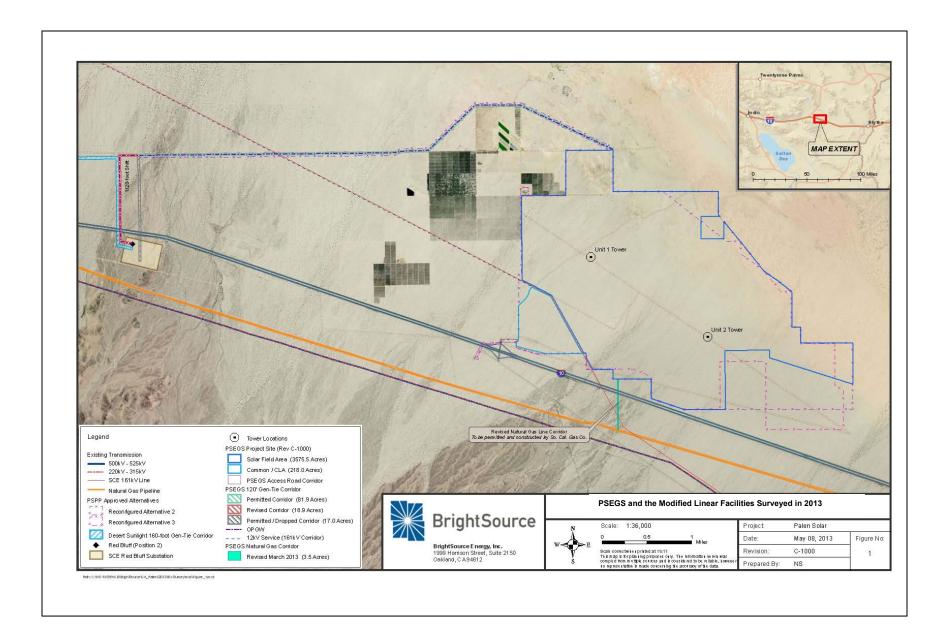
Photographs. Representative Channel Types

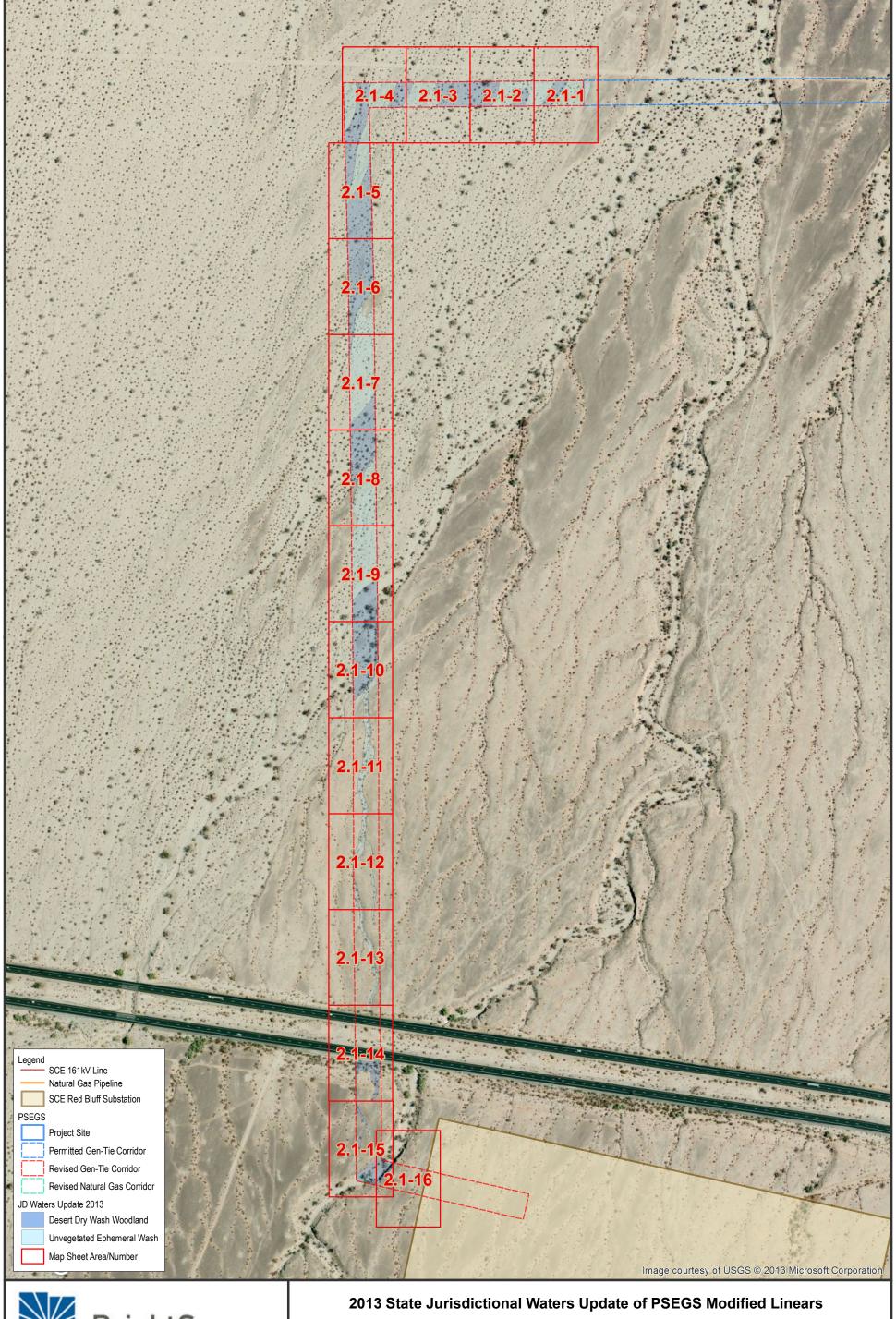
Attachment 1. Field Data Sheets: 2013 State Waters Assessment on the PSEGS Modified Linear Facilities

Figures

Figure 1. PSEGS and the Modified Linear Facilities Surveyed in 2013

Figure 2. Maps of Jurisdictional State Waters on the PSEGS Modified Linear Facilities







BrightSource

BrightSource Energy, Inc. 1999 Harrison Street, Suite 2150 Oakland, CA 94612



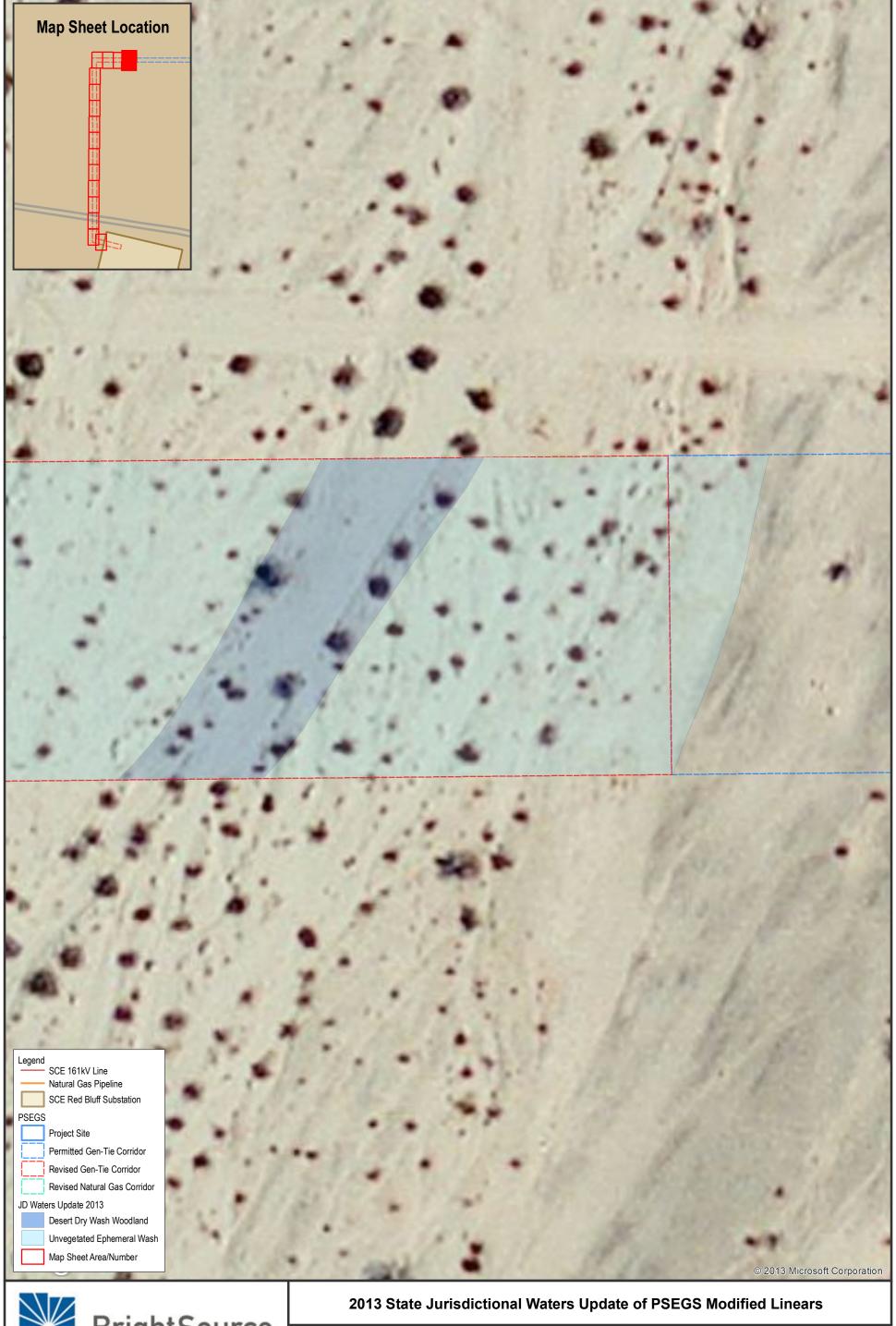
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Project: Palen Solar

Date: Jun 03, 2013 Figure No:

Revision: C-1000 2.1

Prepared By: NS



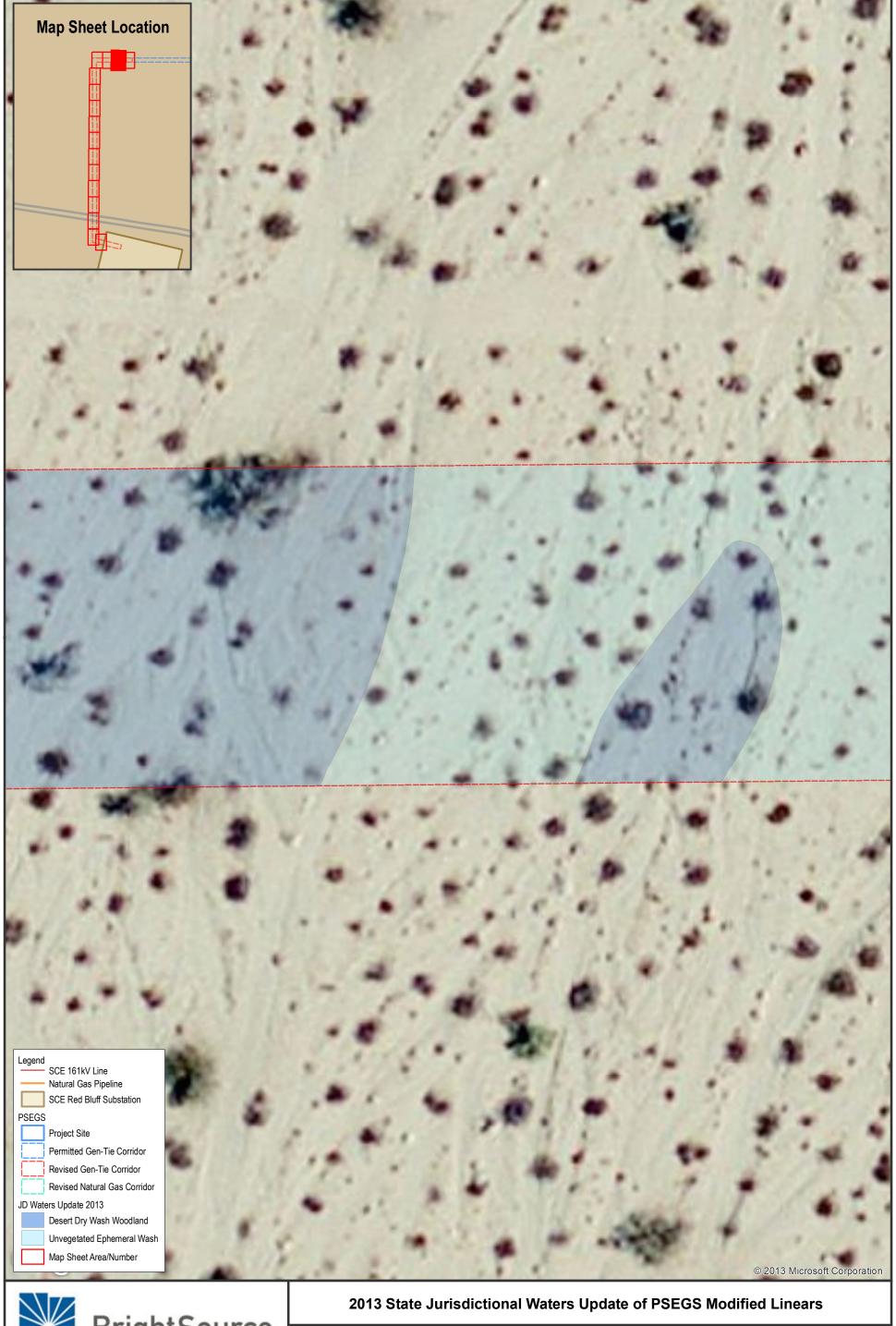


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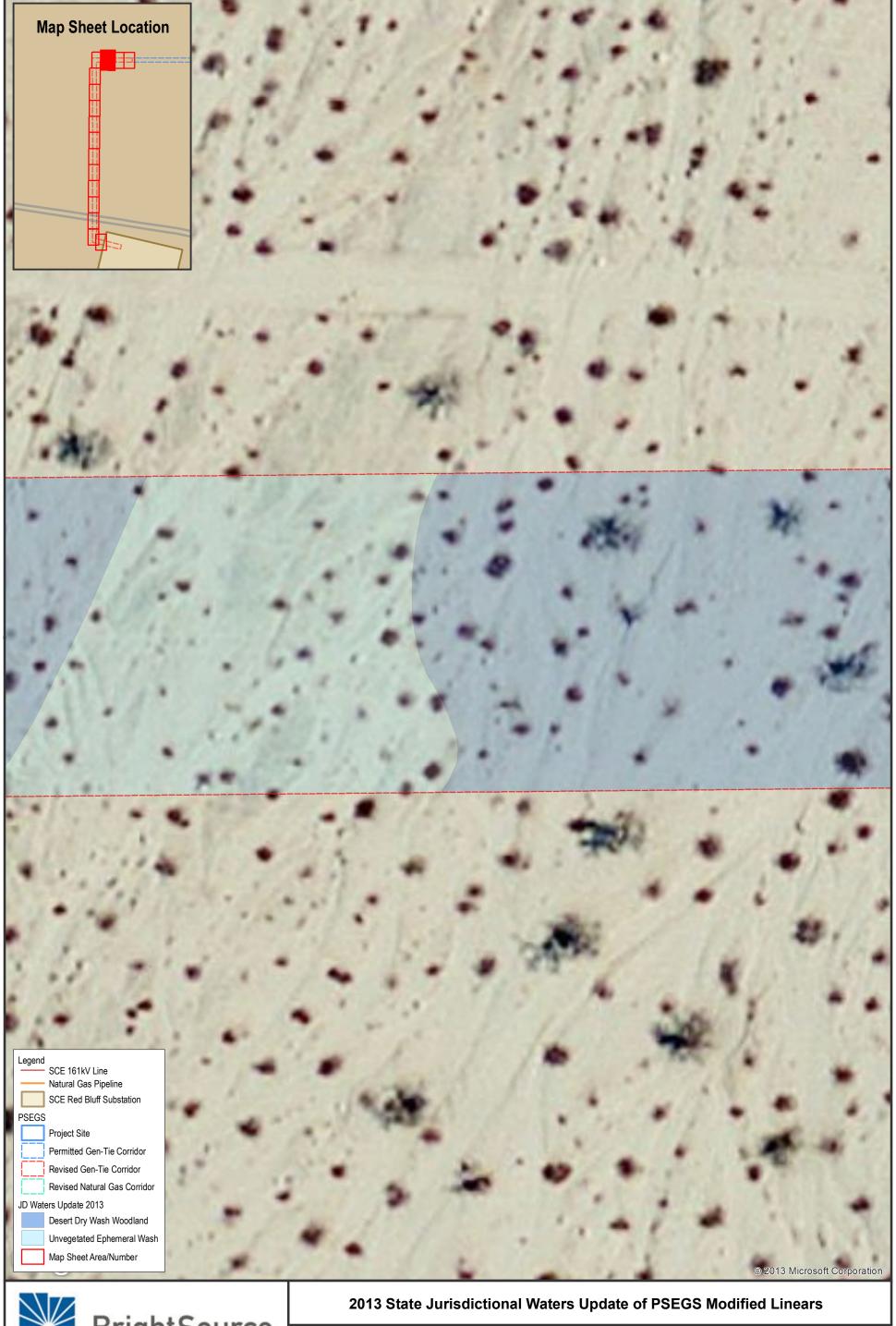




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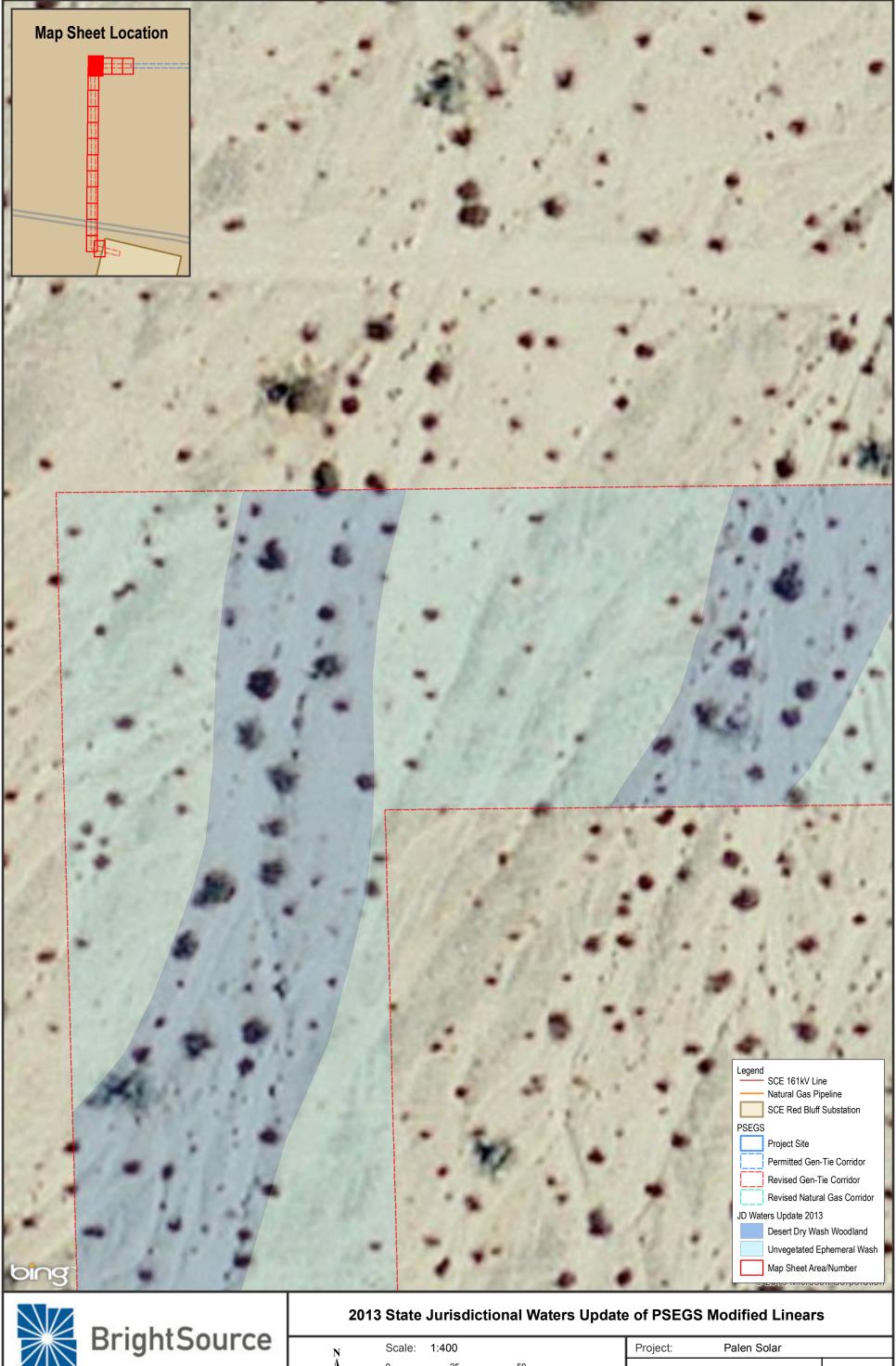




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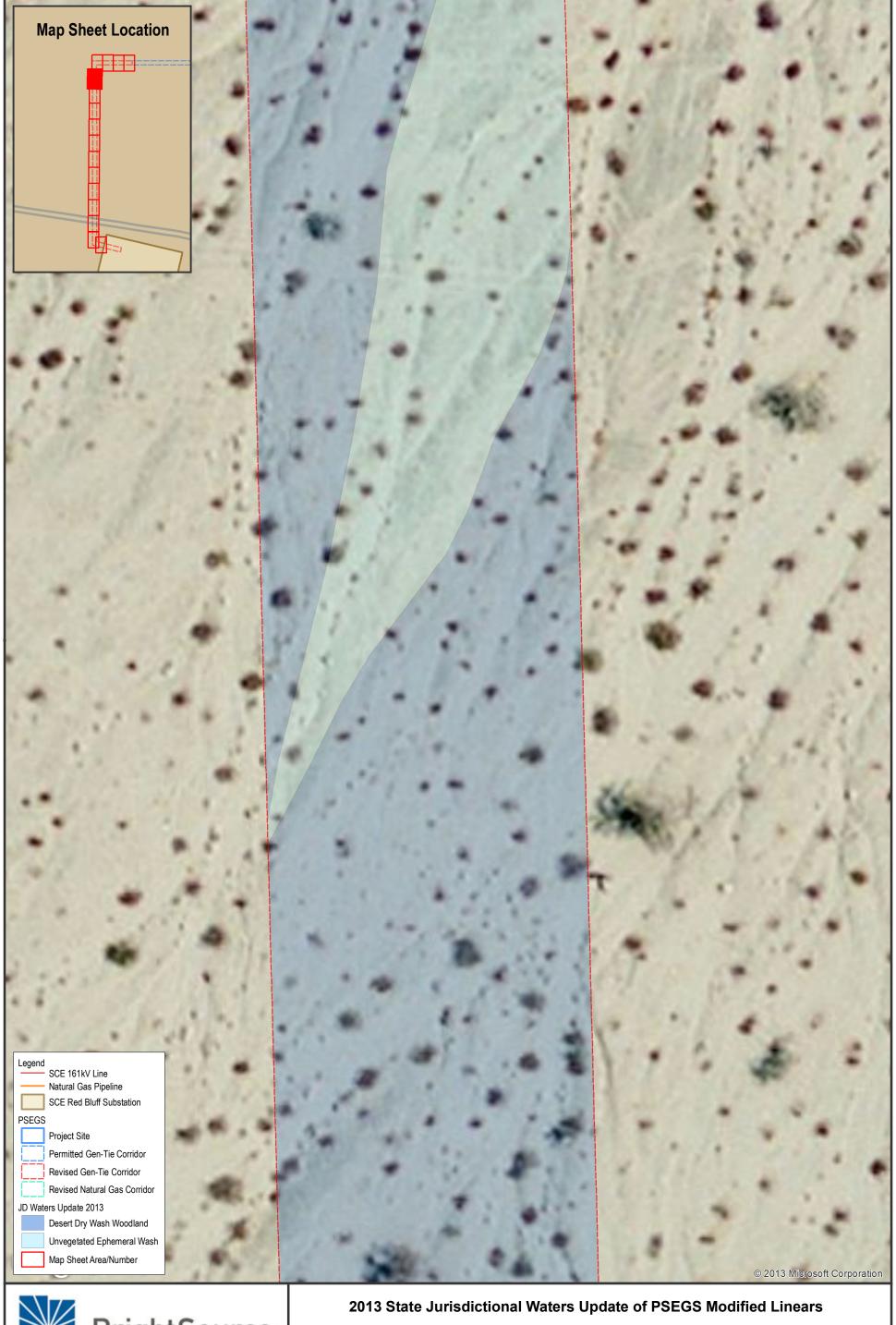




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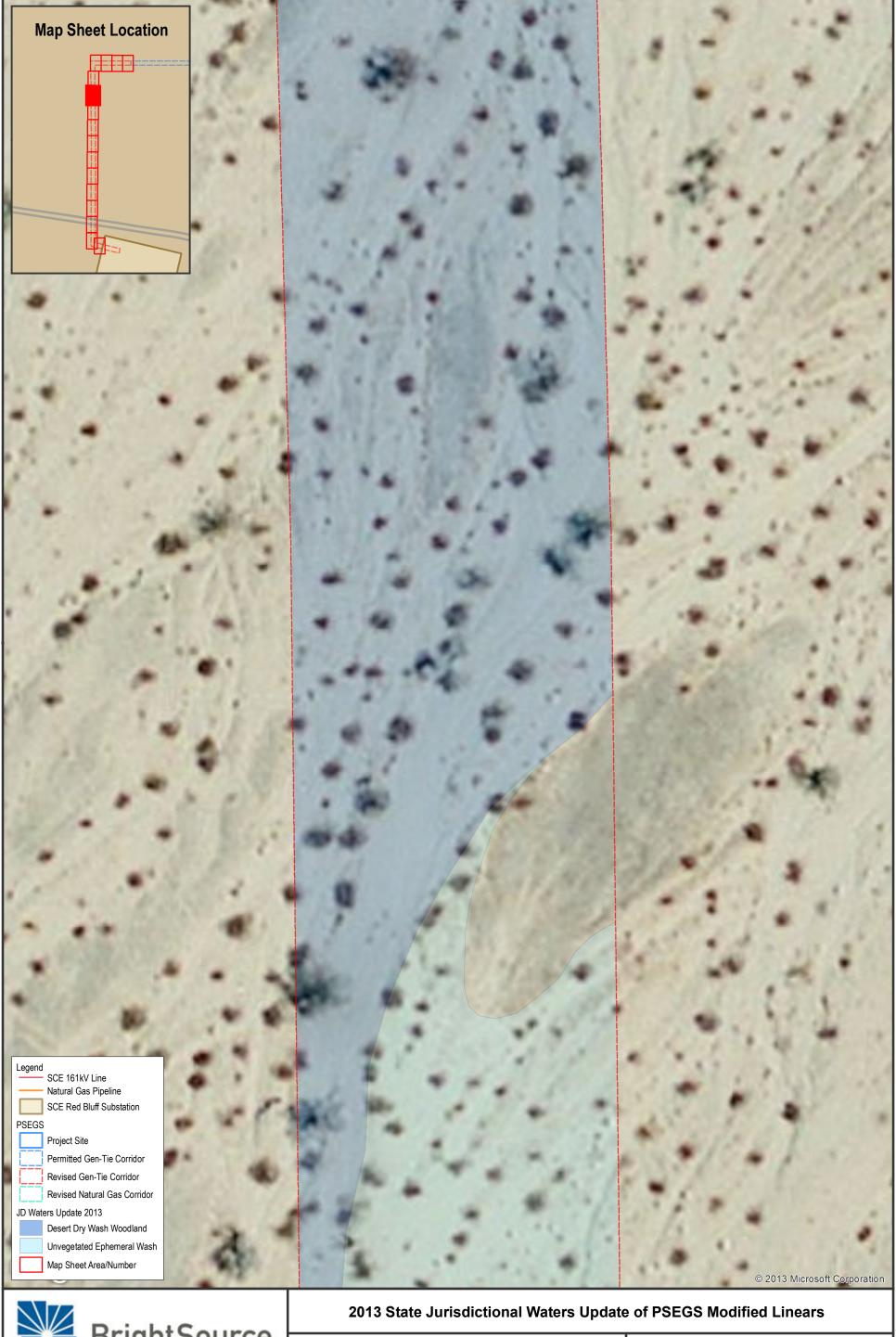


Oakland, CA 94612



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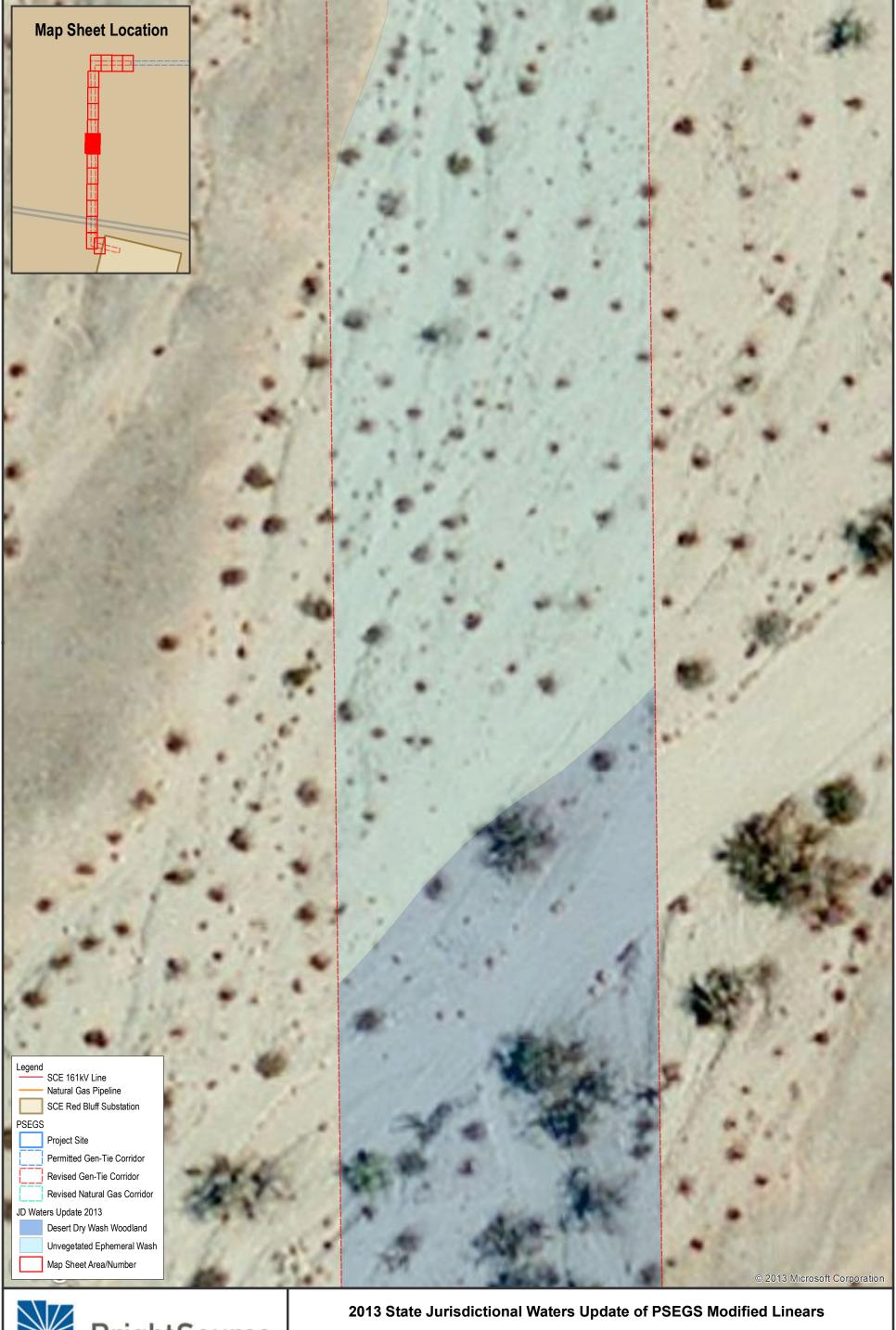






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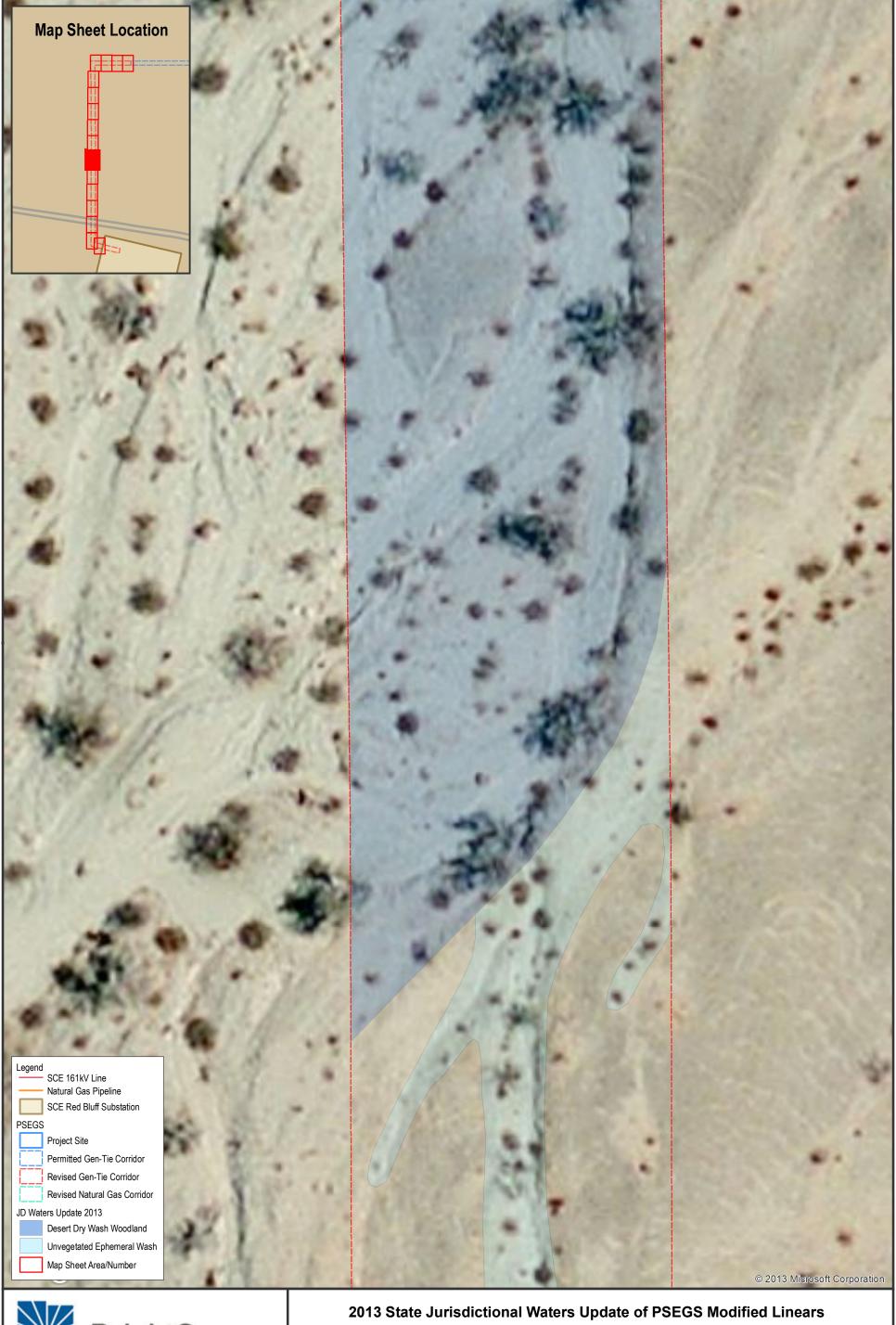
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Oakland, CA 94612







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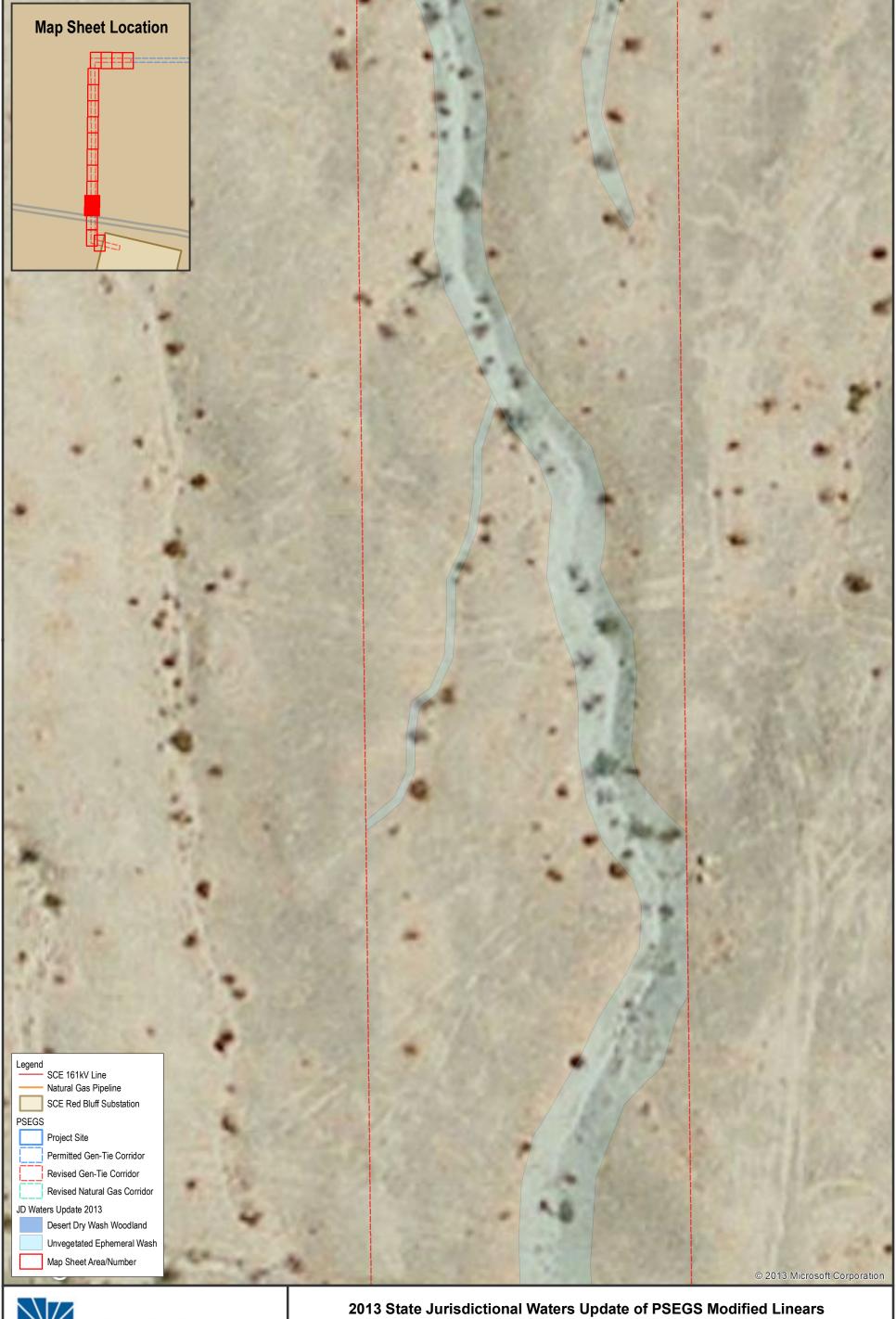






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	Revision:	C-1000	2.1-12
r	Prepared By:	NS	







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Scale correct when printed at 11x17
This map is for planning purposes only. The information herein was
compled from multiple sources and is considered to be reliable, however
no representation is made concerning the accuracy of the data.

	Project:	Palen Solar	
	Date:	Jun 03, 2013	Figure No:
	Revision:	C-1000	2.1-13
r	Prepared By:	NS	





BrightSource Energy, Inc. 1999 Harrison Street, Suite 2150 Oakland, CA 94612

2013 State Jurisdictional Waters Update of PSEGS Modified Linears



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Project:

Palen Solar





BrightSource Energy, Inc. 1999 Harrison Street, Suite 2150 Oakland, CA 94612

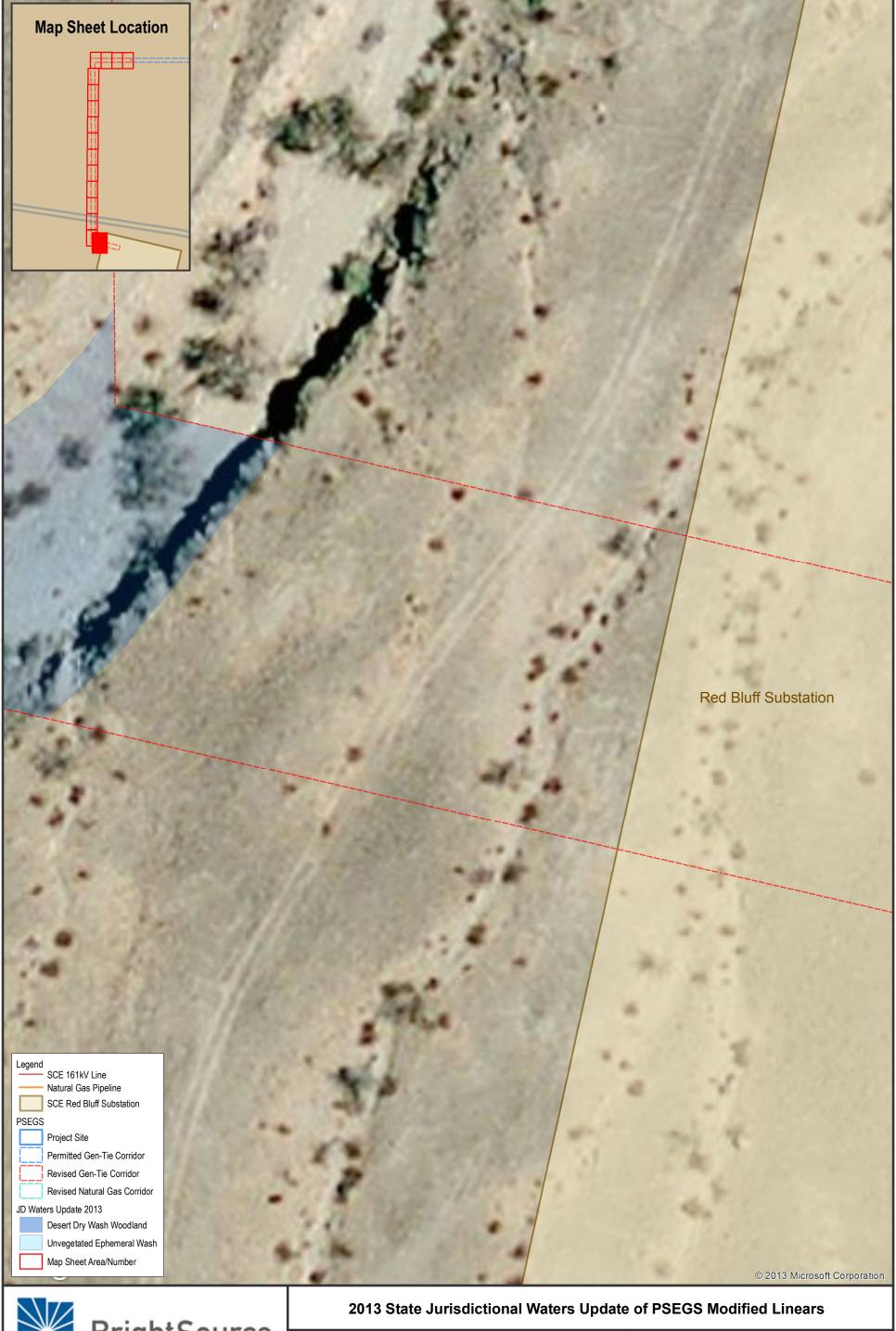


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Palen Solar

Project:

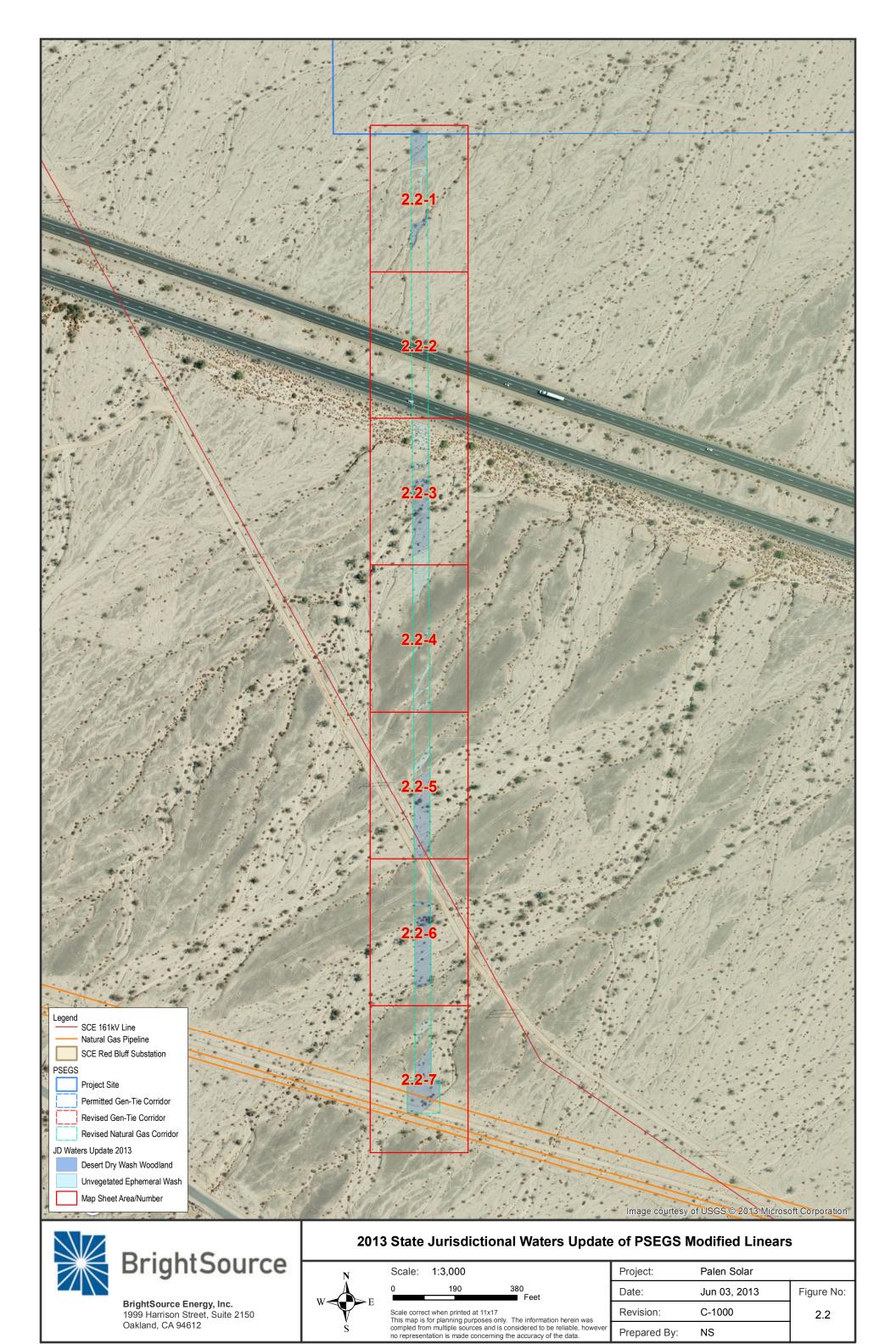






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This map is for planning purposes only. The information herein was compled from multiple sources and is considered to be reliable, however				
		erning the accuracy of the data.		

ı	Project:	Palen Solar	
	Date:	Jun 03, 2013	Figure No:
	Revision:	C-1000	2.1-16
r	Prepared By:	NS	





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. The information herein was	Revision:	C-100
considered to be reliable, however the accuracy of the data.	Prepared By:	NS

Project: Palen Solar

Date: Jun 03, 2013 Figure No:

Revision: C-1000 2.2-1

Prepared By: NS







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This map is for planning purposes only. The information herein was compled from multiple sources and is considered to be reliable, however				
		erning the accuracy of the data.		

ı	Project:	Palen Solar	
	Date:	Jun 03, 2013	Figure No:
	Revision:	C-1000	2.2-2
r	Prepared By:	NS	







Scale:	1:400	
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Scale correct when printed at 11x17
This map is for planning purposes only. The information herein was
compled from multiple sources and is considered to be reliable, however
no representation is made concerning the accuracy of the data.

ı	Project:	Palen Solar	
	Date:	Jun 03, 2013	Figure No:
	Revision:	C-1000	2.2-3
r	Prepared By:	NS	







Scale:	1:400	
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		ses only. The information herein was and is considered to be reliable, however
		erning the accuracy of the data.

ı	Project:	Palen Solar	
	Date:	Jun 03, 2013	Figure No:
	Revision:	C-1000	2.2-4
r	Prepared By:	NS	







Scale:	1:400	
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Scale correct when printed at 11x17
This map is for planning purposes only. The information herein was
compled from multiple sources and is considered to be reliable, however
no representation is made concerning the accuracy of the data.

	Project:	Palen Solar	
	Date:	Jun 03, 2013	Figure No:
	Revision:	C-1000	2.2-5
r	Prepared By:	NS	





Oakland, CA 94612



Scale:	1:400	
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		Feet
	ct when printed at 1	
		ses only. The information herein was and is considered to be reliable, however
		erning the accuracy of the data.

	Project:	Palen Solar	
	Date:	Jun 03, 2013	Figure No:
	Revision:	C-1000	2.2-6
r	Prepared By:	NS	







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Scale correct when printed at 11x17 This map is for planning purposes only. The information herein was compled from multiple sources and is considered to be reliable, however no representation is made concerning the accuracy of the data.

Project:	Palen Solar	
Date:	Jun 03, 2013	Figure No:
Revision:	C-1000	2.2-7
Prepared By:	NS	

Photographs

Representative Photographs of the Channel Types at PSEGS

Primary Channels:



Photograph 1. A primary channel and DDWW. This channel is several meters deep, is a main tributary, and has multiple wash-dependent tree and shrub species.



Photograph 2. Another example of a primary wash and DDWW at PSEGS. This channel has a distinct bed and bank, even though shallow, two wash-dependent species and is dominated by a riparian tree species (*Olneya tesota*).

Secondary Channels:



Photograph 3. Small, shallowly incised wash dominated by upland vegetation, but ironwood trees, albeit stunted, are common. This wash was categorized as DDWW because of the number of trees, although it is of marginal quality.



Photograph 4. Very shallow wash dominated by upland shrubs. This wash is not DDWW at this point.. Upslope, this wash diminished completely (discontinuous channel). Downslope it ultimately became more defined and ironwood became common (DDWW downslope).

Sheet Flood:



Photograph 5. DDWW sheet flood. This is a matrix of braided discontinuous and single-thread channels, some of which are secondary and primary channels. Note the scattered ironwood trees and the gravel rills that indicate water flow.



Photograph 6. DDWW sheet flood on the gas pipeline ROW, north of I-10. Note the many dead and dying ironwood trees resulting from the severing of this sheet flow by the freeway.



Photograph 7. Sheet floodwith only upland species. This sheet has unvegetated ephemeral washes, discontinuous channels and gravel rills indicating water flow throughout the sheet matrix.

Unvegetated Ephemeral Wash:



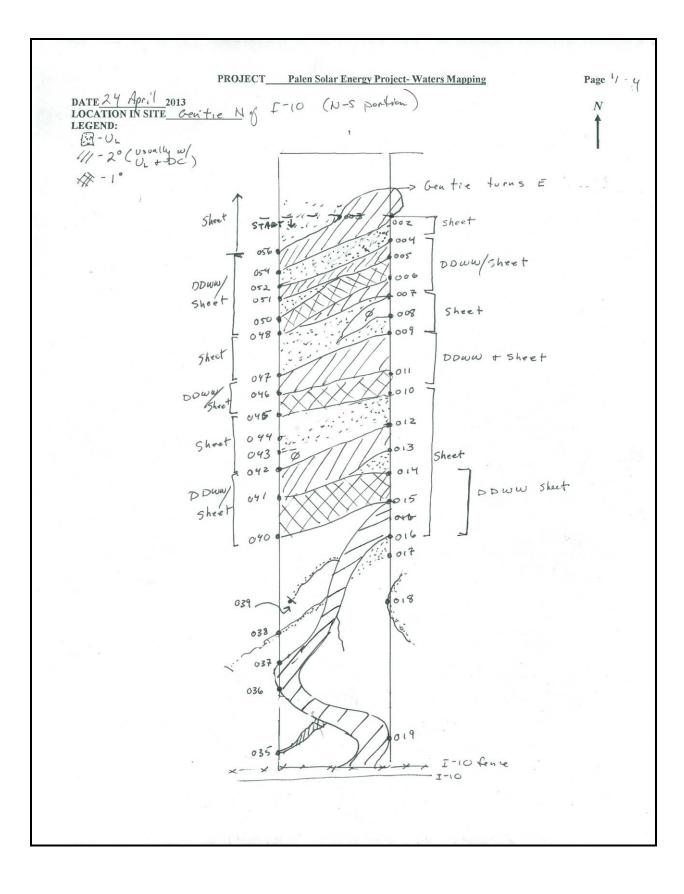
Photograph 8. A U_H channel, with high density of shrubs, all upland species. This channel began as a swale upslope on the desert pavement. Note the secondary wash in the right side of the photograph.



Photograph 9. A U_L channel, with low density of shrubs, all upland species. This is a discontinuous channel.

Attachment 1

Field Data Sheets: 2013 State Waters Assessment on the PSEGS Modified Linear Facilities



PROJECT Palen Solar Energy Project- Waters Mapping DATE 24 Apr. 2013 LOCATION IN SITE Gen-lie So of I-10 LEGEND: R 135

Date: 24 April 2013 Project Part: Gentie, N-S portion Page 3/2

Waypoint				Channel			rub Layer Veg	Tree/Shrub	Other Observations		
I.D.	Easting	Northing	Туре	Depth	Substrate	Dominants	Common	Occasional	Height		
002	0455971	3731871	2° w/	4-8	Coarse	LATR AMDU	OLTE		OLTE - 18-25'		
003	0655952	3731779	UL + DC			77700			18-23		
004	0655972	3731731	2° w/	8	Coarse	LATIZ	OLTE		0678-		
005	0655 977	2.7.7.0	UL FIL	9	sand	AMDU			25-30'		
005	/-	/1	10	9	Coarey	LATE	CLTE		0675-		
006	0655975	3731629			Sand			-	25.30'		
006	٧.		20 W/	8-9	sand + light grave(AMDU	OLTE		22'	-	
007	0655978	3731517	UL +DC						22		
008	0655979	3731992	UL .	7-8	Sand, grave	LATR					
009	0655981	3731369	(mostly)		-rills						
009	i,	*	20 W/ULT DC J Small 10	9-10	sandy grave (LATE	OLIE		OLIE - 20-22		
311	0655982	3731308	weghes		rills				2020		
011	/-	М	20	9-10	sund	AMDU	OLTE		OLTE-		
010	0655984	3731287			gravel rills	7()			20-25'		
010		*,	UL	7		LATE				Shribs are	
0.12	0655984	3731222	O.L			AMDU				sparse	
012	41	4.	z°	.,	coarse	AMDU	0178		OLTE -		
013	0655988		2	16		AMDO			120'		
013	(-	**	UL	7	Coarse	LATR				sparse shrubs	
014	0655985	3731102	O'L	(sand	AMPU				shrubs	
014	1	٤,	10	60	sand w/scatt. combles	OLTE	AMDU		OLTE - 20-25'		
015	CL55988	3731104	١								
015	14	11	20	7	sand	LATER	OLTE	V-	9-10'	~280 cm wide	
016	0655990	3730963							7-10		
0:6	1.	در	U,	7	sand	LATIZ.				sparse	
017	0455991	3730946	- L	(AMDU					
018	0699972	37%778	UL	19	agrave (LATE		(downlegu)	OLTE - 515'	1.5 m wide channel barely toucher RCW	
019	06 55 993	3730518	2°+	110	Sand + Sreul	LATE	AMDU			Near I-10 only is LATE / AMPU. I Downslepe are Small OLTE: 6x	
020	0655993	3730277	,0	6-7m	Grave (CEFY OLTE ACOR	LATIZ				
021	0656019	3730270	(sand						
022	0655991	3730239	Rame	wash a		rozi bet	other 3 i	de R F	20W		
023	0655962	3730254	5	, , ,				0	- 1		

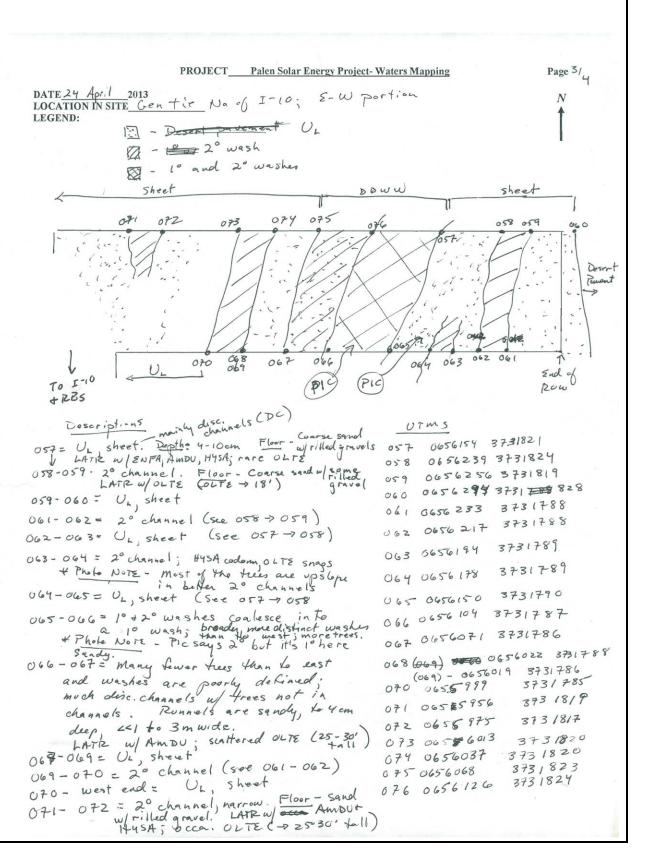
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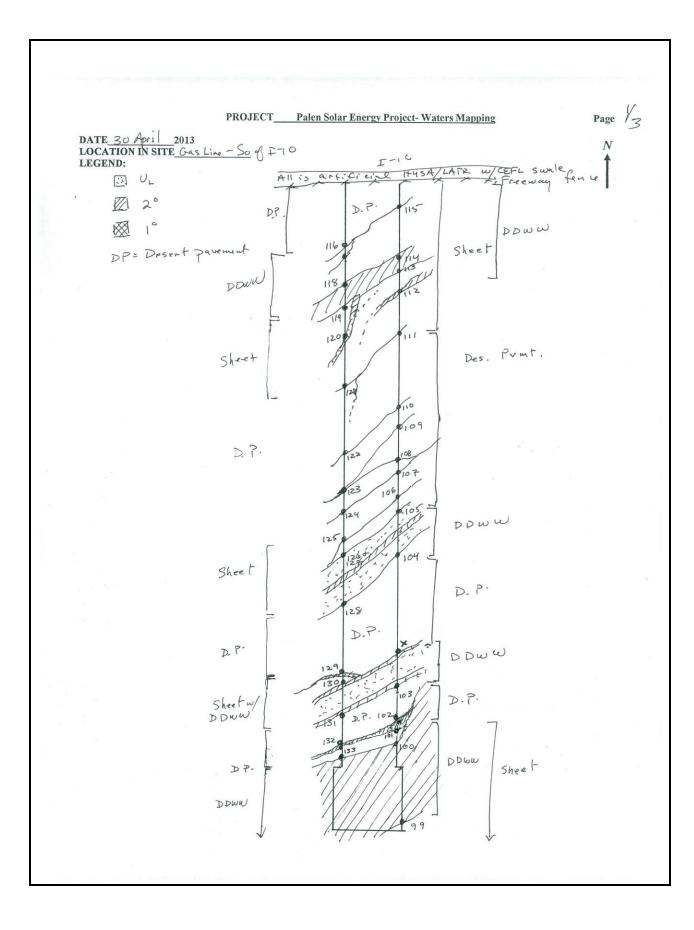
Date: 24 Aguil 2013 Project Part: Gentie, N-S portion

Project: Palen SEGS

Page 1/4

	Waypoint		Ms	Channel				nrub Layer Vege	Tree/Shrub	Other Observations	
	I.D.	Easting	Northing	Туре	Depth	Substrate	Dominants	Common	Occasional	Height	
300th of I-10	024	0655970	-)z°	3	coarse	LATR	KRER		9-12'	Wash is 4m wide
	025	06535964	3730346								
		0655964		> All is	same	wes	4				
	027	0655969	3730393	/							
	028	0655976	3730418)10		30% coh bles	CZEL	OLTE		CEPL- 20-25'	This is the freeway swale
	029	0655972	3730405		-	and,	LATIZ	144 34			Tracing sor.
	030	0656001	3730415			growel Sand;				15-20'	
	031	0655999	3730397			ocea.smal	berlden				
	032	0655999	3730395	20		grand e/	LATE			Trees <10'	Ends upslepe,
	033	0655985	3730395			/	STUSA CEPL OLTE			10	
	035	0655960	3730525	2°+	3	sand &	LATIZ			5-9'	< 1 m wide
V	036	0655957		20	2/m	sand, Stand	LAFR	AMDU	OLTE	OLTE-	59 me as we sh w / wyet 19
7	637	0655956	3730713					/(12(0	
west stold	038	0655953	3730787	U	3	Gand	LATR	AMDU KRER HYSA			to w; I may
	039	0655958	3730906	UL	7		Amou				90 cm wide. Amou is sparse
	040		38093	10							See 014-015 Main wash
	041	Li	3731074	7							C = -13
	042	0655947	3731157	2°							See 012-013
	043	0655947	3731194	UL	3-6	0 1	LATIZ				
		0655995		O'L	5-6	Sand	LNIIZ				
	045	0655945	3731229	20							Sea 010 -
	096	0655948	3731281	^							011
Politice -	0478	0455943	The state of the s	UL	. 1						See 008-
	048	0655942	3731407		12.						
	056	0655940		UL	4-6	Snuel	LATTE				
	051	0655942	3731547		10						
	052	0655941	3731572	Ok +							See 004-
	054	0655941	3731640	1							, , , , , , , , , , , , , , , , , , , ,
Weleter Note:	Tm 54	0655937	3731744.	720							Seq 002 -





Date: 30 April 2013 Project Part: Gas Line - S. & F-10

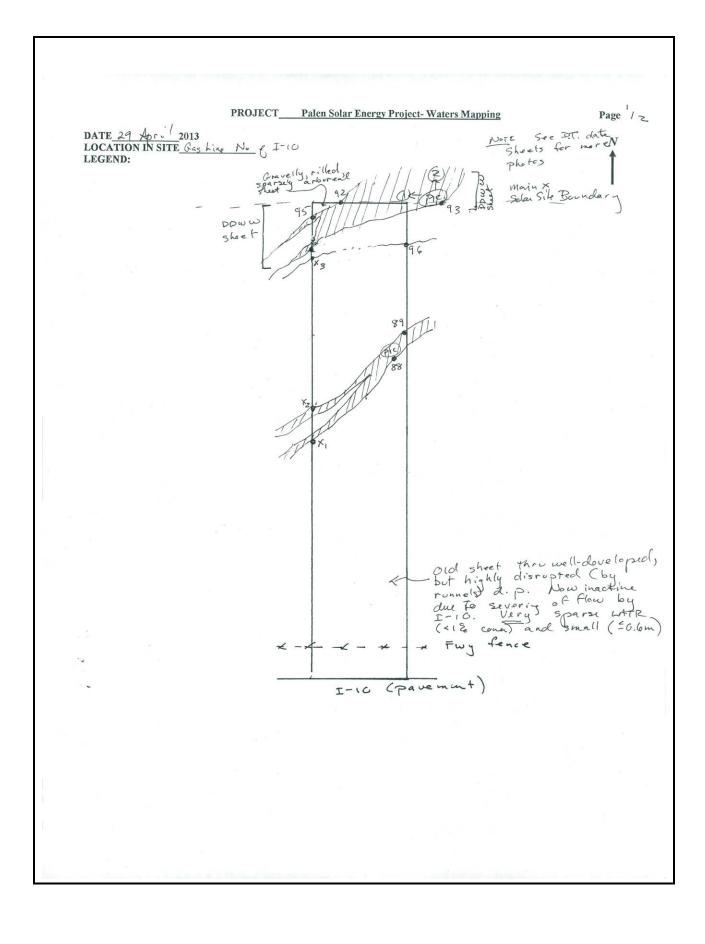
Project: Palen SEGS

1	Waypoint		Ms	Channel			Tree/Shrub Layer Vegetation			Tree/Shrub	Other Observations
	I.D.	Easting	Northing	Туре	Depth	Substrate	Dominants	Common	Occasional	Height	
6	99	0664968	3726941	29, but		Sandly,	OLTE			OLTE -	
4	100	01,64961	3726999	large,	Im	w/grave 1	LATE			→25"	
	101	0664962	3724107	Z°		Sandy			4.75	OLTE-	moets main
	102	0664962		2	2 m		LATR		OLTE	€10'	Channel (99-100) 4m floor (wide), 11
	103	1	22 2754	Deusely 1	ilkd shut;	Sand, rilled graves	LATIZ		AMDU		Source LATE
	χ	0664951	3727123	all DC a exc. bo are dist	not channe	ls gravers					(48 cour)
		The Z	chance(5	1	4	sand w/	OLTE			OLTE-	Floors are 0.5-
		sheet	(103 > X)	20	Im	gravel	14712			25-30' LATRY IN	3m wide
	104	0664968	3727194	Same a	w/2°ch	nnds I mair				1.400	
	105	3664962	1	control	bone, 4	1 mais	LATR		AMDU		Sparse
1		The me	in		0.4m		LATIZ			OLTE -	
T		channel 104->	105	2°	0.11		OLTE			25-30'	
	106		3727271	2°	4-30	Sandy				OLTE -	
				2	cm		LATIZ		OLIE	410'	
	107	0464959	3727-314	2°	4-30		1450		21.75	OLTE-	
				2	cm	Sindy	LATR	-	OLTE	10'	
	108	0664957	3727325	ひょ		1 - Nl.	LATE				UH downslope
		00011	71	UL.	3cm	Sandy	AmDU		Cupslage	Stunted	(mare LATR) Float 1.2 m wid
	109	0664955	3727342			0 1	LATE		OLIE		Un dountage
				UL	3	Sand	Ambu		upstope	Stunted	(mare LATE)
	110	0664958	3727380	1		Grand	LATE				1). Downlope
				OL . (DEUDSLAN	4-20	Sand	AMDU				(LATR) Floor-40 cm wide
	111	0664954	3727420	Sheet -)						
	113	0664959	3727493	DC+UL							
	112	0664954	3727460	Z°	0.4-	sand	OLTE			OLTE	F1001-1m
				_	0.6	grave (LATTE		7	small	w tole
	113	see al	bone	10	0.6	sand	OLTE	LATIZ	Am DU	OLTE-	3 m wide (floor
1	114	0664955	3727501	l					1445A	30'	
	115	0664953	3727519	20	1-1.8m	Sandy	OLTE	LATI2	ACOR	OLTE -	Flan-1 m wide
				4	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	m/graml"	ULIC		(rare)	10-15 serubby	Chennel - 4 m wic
/	116		3727515	See	115						Connects to waypt 115
-	117	0664940	372750	12°	30cm	Sand	LATR		OLIE	Scrubby	Connects to
	118		3727487		to 1	» 113	7114			(
Г	119	1	3727478	onne	PIS F	["					

Project: Palen SEGS

Date: 30 April 2013 Project Partificks LINE - So- of I-10 Page 5/3

Mayboint	[JT	Ms		Channel		Tree/St	rub Layer Veg	etation	Tree/Shrub	Other Observations
Waypoint I.D.		Northing	Туре		Substrate		Common	Occasional	Height	Cure Observations
	A. 101.1	272747.1	(2)	2 3	sand					20 wash ~ 2001
120	0664940	B +2+1+1	02	G-2m	Sand	LATE				ups Gpe.
										Channel too is
121	064943	3727406	oder of	450					(
1041	2661413	0 127 (02	obee of	230	Saral	LATIZ				connects to 11
			Sheet					ļ		Connects to 11 Spane LATE
122	0664943	3727361	4	110						l V
			See	110						Connects to 110
123	0464943	3727319	See	1080	109					Cornects to
										108 + 109
124	0164942	3727299	See	107						Connects to 107
	0664943			106						Connects to 101
126	0664943							1		Same sheet
) See	104-	103					wash as
	0464942		- 1			0175		 		
129	0664946	3727126	e 2º (2 am	sand	OLTE,		MUSA	OLTE-	Floor is <1 > 2m wide
			runne	~~~	3.00	LATE, AMDU		11.67	Ю	
130	0664946	372713		103	- v					Same sheet
	0664946		1200	103	^					as 103 ⇒ X
	-	-			Sand			-	-	
132	0669792	372+09	20 wesh	1-8m	340	LATI2	OLTE		OLTE- small	Flag - 0.5m w
			in a.p						510'	
133	11.44949	327/927	2° -		7- 1	1.00				See 99-100
-	0661197	2120175	2 -	conne	ds to	100				300 11 15
								-		
	-									
									-	
				-					-	<u> </u>
			-					-	-	
					1	1				



Date: 29 April 2013 Project: Palen SEGS
Project Part: Gas Line No 1 I-10

Waypoint I.D.	UT Easting	Ms Northing	Туре	Channel Depth	Substrate	Tree/Sh Dominants	Common	Occasional	Tree/Shrub Height	Other Observations
	3664950 3664951	3727758 3727772	2	<1m	Coarse sand uf grand to small-cohble	LAT(2	OLTE	AM DU 1445A	OLTE small + mostly dead	4 m wide
92	0664945 0664974	3727842	Two 2° channel channel coalesce into a	1	Sand and grave rills	1LATIZ HYSA			OLTE - 'ton25'.	Many OLTE dead dying. Wash~35m acro
		, , , , , , , , , , , , , , , , , , ,	broad and e	sheefi	garea Ju/gr	which i	s also 2 and g	o. Man ravolly		low runnels
94	0664937	3727822		40cm	sand	AMO U OLTE			06 TE <201	Floor ~1 m wide; entire channel width =
95	0664936	3727833	runnel	3-6cm	Sand	AMDU				Floor~Im wide
Χı	0664938	372773	Conti	nuati	m of	runnel	(Dc)	te wa	upt 9	6
Xz	0664938	3727754	Conti	nvah	er of	2° Was	h to	88-8	9 was	4
X3	%64 937	3727818	Conti	nuer	to "	88-89	wash	8		
										-
							-			
		-								
				No.						



BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION OF THE STATE OF CALIFORNIA

1516 NINTH STREET, SACRAMENTO, CA 95814 1-800-822-6228 – WWW.ENERGY.CA.GOV

PALEN SOLAR ELECTRIC GENERATING SYSTEM AMENDMENT

Docket No. 09-AFC-7C PROOF OF SERVICE (Revised 05/23/2013)

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COMMISSION DOCKET UNIT

California Energy Commission Docket Unit Attn: Docket No. 09-AFC-7C 1516 Ninth Street, MS-4 Sacramento, CA 95814-5512 docket@energy.ca.gov

OTHER ENERGY COMMISSION PARTICIPANTS (LISTED FOR CONVENIENCE ONLY):

After docketing, the Docket Unit will provide a copy to the persons listed below. Do not send copies of documents to these persons unless specifically directed to do so.

KAREN DOUGLAS
Commissioner and Presiding Member

DAVID HOCHSCHILD Commissioner and Associate Member

Kenneth Celli Hearing Adviser

Galen Lemei Adviser to Presiding Member

Jennifer Nelson Adviser to Presiding Member

Gabe Taylor Adviser to Associate Member

Eileen Allen Commissioners' Technical Adviser for Facility Siting

DECLARATION OF SERVICE

I, Marie Fleming, declare that on June 5, 2013, I served and filed copies of the attached <u>PSEGS Summary of Survey for Jurisdictional State Waters</u>, dated June 5, 2013. This document is accompanied by the most recent Proof of Service, which I copied from the web page for this project at: http://www.energy.ca.gov/sitingcases/palen/compliance/.

The document has been sent to the other persons on the Service List above in the following manner:

Check	one)
or ser	vice to all other parties and filing with the Docket Unit at the Energy Commission:
	I e-mailed the document to all e-mail addresses on the Service List above and personally delivered it o deposited it in the U.S. mail with first class postage to those parties noted above as "hard copy required" OR
X	Instead of e-mailing the document, I personally delivered it or deposited it in the U.S. mail with first class postage to all of the persons on the Service List for whom a mailing address is given.
	e under penalty of perjury under the laws of the State of California that the foregoing is true and correct, and mover the age of 18 years.
Dated:	June 5, 2013 Marie Fleming

ATTACHMENT DR 45-1 RESUMES OF DRS. PATRICIA BROWN AND WILLIAM RAINEY

William E. Rainey 2556 Hilgard Ave. Berkeley CA 94709-1105

510-845-5313 weredp@aol.com

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Michigan State University B. S. (with high honor) 1969 Geology University of California, Berkeley Ph.D. 1985 Zoology

Professional experience

1988-present	Research zoologist. PI or co-PI on direct grants and contracts.
2008-2010	Associate Specialist, California Biodiversity Center, University of California,
	Berkeley (fractional time).
1997-2007	Associate Specialist, Dept. of Integrative Biology, University of California,
	Berkeley (fractional time).
1989	Visiting associate research scientist. Dept. of Zoology, University of California,
	Berkeley.
1986-87	Post-doctoral research biochemist. Dept. of Anthropology, University of
	California, Berkeley.
1972-73	Zoologist, Island Resources Foundation, St. Thomas, Virgin Islands.

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ATTACHMENT DR 70-1 UPDATED PHASE I ESA RECORDS SEARCH

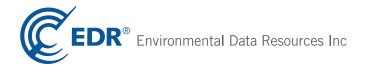
Palen

Desert Center, CA 92239

Inquiry Number: 3631450.1s

June 10, 2013

EDR DataMap™ Area Study



Thank you for your business. Please contact EDR at 1-800-352-0050 with any questions or comments.

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TARGET PROPERTY INFORMATION

ADDRESS

DESERT CENTER, CA 92239 DESERT CENTER, CA 92239

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records within the requested search area for the following databases:

FEDERAL RECORDS

FEDERAL RECORDS	
NPL	. National Priority List
Proposed NPL	Proposed National Priority List Sites
	National Priority List Deletions
NPL LIENS	
	Comprehensive Environmental Response, Compensation, and Liability Information System
	CERCLIS No Further Remedial Action Planned
LIENS 2	_ CERCLA Lien Information
CORRACTS	Corrective Action Report
RCRA-TSDF	RCRA - Treatment, Storage and Disposal
RCRA-LQG	RCRA - Large Quantity Generators
RCRA-SQG	RCRA - Small Quantity Generators
RCRA-CESQG	RCRA - Conditionally Exempt Small Quantity Generator
RCRA NonGen / NLR	RCRA - Non Generators
	Engineering Controls Sites List
	_ Sites with Institutional Controls
ERNS	Emergency Response Notification System
HMIRS	Hazardous Materials Information Reporting System
	Incident and Accident Data
US CDL	. Clandestine Drug Labs
	A Listing of Brownfields Sites
DOD	Department of Defense Sites
FUDS	Formerly Used Defense Sites
	Land Use Control Information System
	Superfund (CERCLA) Consent Decrees
ROD	
UMTRA	Uranium Mill Tailings Sites
	Torres Martinez Reservation Illegal Dump Site Locations
ODI	
US MINES	
	Toxic Chemical Release Inventory System
	Toxic Substances Control Act
FIIS	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide

Act)/TSCA (Toxic Substances Control Act)

ICIS..... Integrated Compliance Information System

PADS......PCB Activity Database System MLTS..... Material Licensing Tracking System RADINFO...... Radiation Information Database

FINDS......Facility Index System/Facility Registry System RAATS______RCRA Administrative Action Tracking System

RMP..... Risk Management Plans PRP......Potentially Responsible Parties 2020 COR ACTION...... 2020 Corrective Action Program List

US AIRS..... Aerometric Information Retrieval System Facility Subsystem

LEAD SMELTERS..... Lead Smelter Sites

FEDERAL FACILITY Federal Facility Site Information listing

COAL ASH EPA..... Coal Combustion Residues Surface Impoundments List

FEMA UST...... Underground Storage Tank Listing SCRD DRYCLEANERS...... State Coalition for Remediation of Drycleaners Listing

EPA WATCH LIST..... EPA WATCH LIST

US FIN ASSUR..... Financial Assurance Information

US HIST CDL..... National Clandestine Laboratory Register PCB TRANSFORMER...... PCB Transformer Registration Database COAL ASH DOE..... Steam-Electric Plant Operation Data

STATE AND LOCAL RECORDS

HIST Cal-Sites _____ Historical Calsites Database CA BOND EXP. PLAN..... Bond Expenditure Plan

SCH...... School Property Evaluation Program

Toxic Pits...... Toxic Pits Cleanup Act Sites SWF/LF..... Solid Waste Information System WMUDS/SWAT..... Waste Management Unit Database

WDS...... Waste Discharge System NPDES Permits Listing

UIC_____UIC Listing

Cortese "Cortese" Hazardous Waste & Substances Sites List

HIST CORTESE..... Hazardous Waste & Substance Site List

SWRCY..... Recycler Database

LUST...... Geotracker's Leaking Underground Fuel Tank Report CA FID UST...... Facility Inventory Database

SLIC Statewide SLIC Cases UST_____ Active UST Facilities

HIST UST..... Hazardous Substance Storage Container Database

LIENS..... Environmental Liens Listing CUPA Listings..... CUPA Resources List SWEEPS UST Listing

CHMIRS...... California Hazardous Material Incident Report System

LDS..... Land Disposal Sites Listing

AST..... Aboveground Petroleum Storage Tank Facilities

MCS..... Military Cleanup Sites Listing Notify 65...... Proposition 65 Records DEED..... Deed Restriction Listing

VCP..... Voluntary Cleanup Program Properties

DRYCLEANERS...... Cleaner Facilities

WIP..... Well Investigation Program Case List

ENF..... Enforcement Action Listing CDL...... Clandestine Drug Labs RESPONSE...... State Response Sites

HAZNET...... Facility and Manifest Data
EMI...... Emissions Inventory Data
ENVIROSTOR..... EnviroStor Database

HAULERS_______Registered Waste Tire Haulers Listing
HWP______EnviroStor Permitted Facilities Listing
MWMP______Medical Waste Management Program Listing

PROC...... Certified Processors Database

HWT...... Registered Hazardous Waste Transporter Database

TRIBAL RECORDS

INDIAN RESERV..... Indian Reservations

INDIAN VCP..... Voluntary Cleanup Priority Listing

EDR PROPRIETARY RECORDS

EDR MGP..... EDR Proprietary Manufactured Gas Plants EDR US Hist Auto Stat..... EDR Exclusive Historic Gas Stations EDR US Hist Cleaners..... EDR Exclusive Historic Dry Cleaners

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were not identified.

Unmappable (orphan) sites are not considered in the foregoing analysis.

Please refer to the end of the findings report for unmapped orphan sites due to poor or inadequate address information.

MAP FINDINGS SUMMARY

	Database		Total Plotted
		•	
FEDERAL RECORDS			
TEDENAL NEGONDO	NPL Proposed NPL Delisted NPL NPL LIENS CERCLIS CERC-NFRAP LIENS 2 CORRACTS RCRA-TSDF RCRA-LQG RCRA-SQG RCRA-CESQG RCRA NonGen / NLR US ENG CONTROLS US INST CONTROL ERNS HMIRS DOT OPS US CDL US BROWNFIELDS DOD FUDS LUCIS CONSENT ROD UMTRA DEBRIS REGION 9 ODI US MINES TRIS TSCA FTTS HIST FTTS SSTS ICIS PADS MLTS RADINFO FINDS RAATS RMP PRP 2020 COR ACTION		000000000000000000000000000000000000000
	US AIRS LEAD SMELTERS FEDERAL FACILITY COAL ASH EPA		0 0 0 0
	FEMA UST		0

MAP FINDINGS SUMMARY

	Database	Total Plotted
	SCRD DRYCLEANERS EPA WATCH LIST US FIN ASSUR US HIST CDL PCB TRANSFORMER COAL ASH DOE	0 0 0 0 0
STATE AND LOCAL R	ECORDS	
	HIST Cal-Sites CA BOND EXP. PLAN SCH Toxic Pits SWF/LF WMUDS/SWAT WDS NPDES UIC Cortese HIST CORTESE SWRCY LUST CA FID UST SLIC UST HIST UST LIENS CUPA Listings SWEEPS UST CHMIRS LDS AST MCS Notify 65 DEED VCP DRYCLEANERS WIP ENF CDL RESPONSE HAZNET EMI ENVIROSTOR HAULERS HWP MWMP PROC HWT	
TRIBAL RECORDS		v
	INDIAN RESERV	0

MAP FINDINGS SUMMARY

	Database	Total Plotted
	INDIAN ODI INDIAN LUST INDIAN UST INDIAN VCP	0 0 0 0
EDR PROPRIETARY REC	CORDS	
	EDR MGP EDR US Hist Auto Stat EDR US Hist Cleaners	0 0 0

NOTES:

Sites may be listed in more than one database

MAP FINDINGS

Map ID Direction Distance Distance (ft.)Site

EDR ID Number

Database(s)

EPA ID Number

NO SITES FOUND

Count: 9 records ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
DESERT CENTER	S104816282	CALTRANS DESERT CENTER	129476 HWY 60	92239	LUST
DESERT CENTER	1014672120	PALEN SOLAR POWER PROJECT	CORN SPRINGS RD	92239	FINDS
DESERT CENTER	S106929753	MWD/EAGLE MOUNTAIN PUMPING PLT	DESERT CENTER	92239	SWEEPS UST
DESERT CENTER	S106929754	MWD/JULIAN HINDS PUMPING PLANT	DESERT CENTER	92239	SWEEPS UST
DESERT CENTER	S103341820	DESERT CENTER SANITARY 98-002	17991 KAISER RD	92239	SWF/LF, WMUDS/SWAT, WDS,
					Cortese, LDS, ENF
DESERT CENTER	1000167580	SO CALIF GAS CO/DESERT CENTER STATION	1 MILE EAST OF DESERT CTR	92239	RCRA-SQG, FINDS
DESERT CENTER	U001573854	EAGLE MOUNTAIN PUMPING PLANT	NEAR DESERT CENTER	92239	HIST UST
DESERT CENTER	U001573856	JULIAN HINDS PUMPING PLANT	NEAR DESERT CENTER	92239	HIST UST
DESERT CENTER	1003879899	KAISER EAGLE MOUNTAIN	N OFF KAISER RD	92239	CERC-NFRAP

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

FEDERAL RECORDS

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 02/01/2013 Source: EPA
Date Data Arrived at EDR: 03/01/2013 Telephone: N/A
Date Made Active in Reports: 03/13/2013 Last EDR Contact: 05/09/2013

Number of Days to Update: 12 Next Scheduled EDR Contact: 07/22/2013
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)

Telephone: 202-564-7333

EPA Region 1 EPA Region 6

Telephone 617-918-1143 Telephone: 214-655-6659

EPA Region 3 EPA Region 7

Telephone 215-814-5418 Telephone: 913-551-7247

EPA Region 4 EPA Region 8

Telephone 404-562-8033 Telephone: 303-312-6774

EPA Region 5 EPA Region 9

Telephone 312-886-6686 Telephone: 415-947-4246

EPA Region 10

Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 02/01/2013 Source: EPA
Date Data Arrived at EDR: 03/01/2013 Telephone: N/A

Number of Days to Update: 12 Next Scheduled EDR Contact: 07/22/2013

Data Release Frequency: Quarterly

DELISTED NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 02/01/2013 Source: EPA
Date Data Arrived at EDR: 03/01/2013 Telephone: N/A

Number of Days to Update: 12 Next Scheduled EDR Contact: 07/22/2013
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991 Date Data Arrived at EDR: 02/02/1994 Date Made Active in Reports: 03/30/1994

Number of Days to Update: 56

Source: EPA

Telephone: 202-564-4267 Last EDR Contact: 08/15/2011

Next Scheduled EDR Contact: 11/28/2011 Data Release Frequency: No Update Planned

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System

CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 02/04/2013 Date Data Arrived at EDR: 03/01/2013 Date Made Active in Reports: 03/13/2013

Number of Days to Update: 12

Source: EPA

Telephone: 703-412-9810 Last EDR Contact: 05/29/2013

Next Scheduled EDR Contact: 09/09/2013 Data Release Frequency: Quarterly

CERCLIS-NFRAP: CERCLIS No Further Remedial Action Planned

Archived sites are sites that have been removed and archived from the inventory of CERCLIS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

Date of Government Version: 02/05/2013 Date Data Arrived at EDR: 03/01/2013 Date Made Active in Reports: 03/13/2013

Number of Days to Update: 12

Source: EPA

Telephone: 703-412-9810 Last EDR Contact: 05/29/2013

Next Scheduled EDR Contact: 05/09/2013 Data Release Frequency: Quarterly

LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 02/06/2013 Date Data Arrived at EDR: 04/25/2013 Date Made Active in Reports: 05/10/2013

Number of Days to Update: 15

Source: Environmental Protection Agency

Telephone: 202-564-6023 Last EDR Contact: 04/29/2013

Next Scheduled EDR Contact: 08/12/2013 Data Release Frequency: Varies

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 02/12/2013 Date Data Arrived at EDR: 02/21/2013 Date Made Active in Reports: 02/27/2013

Number of Days to Update: 6

Source: EPA

Telephone: 800-424-9346 Last EDR Contact: 05/02/2013

Next Scheduled EDR Contact: 07/15/2013 Data Release Frequency: Quarterly

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 02/12/2013 Date Data Arrived at EDR: 02/15/2013 Date Made Active in Reports: 02/27/2013

Number of Days to Update: 12

Source: Environmental Protection Agency

Telephone: (415) 495-8895 Last EDR Contact: 05/02/2013

Next Scheduled EDR Contact: 07/15/2013 Data Release Frequency: Quarterly

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 02/12/2013 Date Data Arrived at EDR: 02/15/2013 Date Made Active in Reports: 02/27/2013

Number of Days to Update: 12

Source: Environmental Protection Agency

Telephone: (415) 495-8895 Last EDR Contact: 05/02/2013

Next Scheduled EDR Contact: 07/15/2013 Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 02/12/2013 Date Data Arrived at EDR: 02/15/2013 Date Made Active in Reports: 02/27/2013

Number of Days to Update: 12

Source: Environmental Protection Agency

Telephone: (415) 495-8895 Last EDR Contact: 05/02/2013

Next Scheduled EDR Contact: 07/15/2013 Data Release Frequency: Quarterly

RCRA-CESQG: RCRA - Conditionally Exempt Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 02/12/2013 Date Data Arrived at EDR: 02/15/2013 Date Made Active in Reports: 02/27/2013

Number of Days to Update: 12

Source: Environmental Protection Agency

Telephone: (415) 495-8895 Last EDR Contact: 05/02/2013

Next Scheduled EDR Contact: 07/15/2013 Data Release Frequency: Varies

RCRA NonGen / NLR: RCRA - Non Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 02/12/2013 Date Data Arrived at EDR: 02/15/2013 Date Made Active in Reports: 02/27/2013

Number of Days to Update: 12

Source: Environmental Protection Agency Telephone: (415) 495-8895

Last EDR Contact: 05/02/2013

Next Scheduled EDR Contact: 07/15/2013

Data Release Frequency: Varies

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 03/14/2013 Date Data Arrived at EDR: 03/29/2013 Date Made Active in Reports: 05/10/2013

Number of Days to Update: 42

Source: Environmental Protection Agency

Telephone: 703-603-0695 Last EDR Contact: 06/10/2013

Next Scheduled EDR Contact: 09/23/2013 Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 03/14/2013 Date Data Arrived at EDR: 03/29/2013 Date Made Active in Reports: 05/10/2013

Number of Days to Update: 42

Source: Environmental Protection Agency

Telephone: 703-603-0695 Last EDR Contact: 06/10/2013

Next Scheduled EDR Contact: 09/23/2013 Data Release Frequency: Varies

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 12/31/2012 Date Data Arrived at EDR: 01/17/2013 Date Made Active in Reports: 02/15/2013

Number of Days to Update: 29

Source: National Response Center, United States Coast Guard

Telephone: 202-267-2180 Last EDR Contact: 04/02/2013

Next Scheduled EDR Contact: 07/15/2013 Data Release Frequency: Annually

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 12/31/2012 Date Data Arrived at EDR: 01/03/2013 Date Made Active in Reports: 02/27/2013

Number of Days to Update: 55

Source: U.S. Department of Transportation

Telephone: 202-366-4555 Last EDR Contact: 04/02/2013

Next Scheduled EDR Contact: 07/15/2013
Data Release Frequency: Annually

DOT OPS: Incident and Accident Data

Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 07/31/2012 Date Data Arrived at EDR: 08/07/2012 Date Made Active in Reports: 09/18/2012

Number of Days to Update: 42

Source: Department of Transporation, Office of Pipeline Safety

Telephone: 202-366-4595 Last EDR Contact: 05/07/2013

Next Scheduled EDR Contact: 08/19/2013 Data Release Frequency: Varies

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 03/04/2013 Date Data Arrived at EDR: 03/12/2013 Date Made Active in Reports: 05/10/2013

Number of Days to Update: 59

Source: Drug Enforcement Administration

Telephone: 202-307-1000 Last EDR Contact: 06/03/2013

Next Scheduled EDR Contact: 09/16/2013 Data Release Frequency: Quarterly

US BROWNFIELDS: A Listing of Brownfields Sites

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 12/10/2012 Date Data Arrived at EDR: 12/11/2012 Date Made Active in Reports: 12/20/2012

Number of Days to Update: 9

Source: Environmental Protection Agency

Telephone: 202-566-2777 Last EDR Contact: 03/26/2013

Next Scheduled EDR Contact: 07/08/2013 Data Release Frequency: Semi-Annually

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005 Date Data Arrived at EDR: 11/10/2006 Date Made Active in Reports: 01/11/2007

Number of Days to Update: 62

Source: USGS Telephone: 888-275-8747 Last EDR Contact: 04/19/2013

Next Scheduled EDR Contact: 07/29/2013 Data Release Frequency: Semi-Annually

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 12/31/2011 Date Data Arrived at EDR: 02/26/2013 Date Made Active in Reports: 03/13/2013

Number of Days to Update: 15

Source: U.S. Army Corps of Engineers

Telephone: 202-528-4285 Last EDR Contact: 06/10/2013

Next Scheduled EDR Contact: 09/23/2013 Data Release Frequency: Varies

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 12/09/2005 Date Data Arrived at EDR: 12/11/2006 Date Made Active in Reports: 01/11/2007

Number of Days to Update: 31

Source: Department of the Navy Telephone: 843-820-7326 Last EDR Contact: 05/20/2013

Next Scheduled EDR Contact: 09/02/2013 Data Release Frequency: Varies

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 12/31/2011 Date Data Arrived at EDR: 01/15/2013 Date Made Active in Reports: 03/13/2013

Number of Days to Update: 57

Source: Department of Justice, Consent Decree Library

Telephone: Varies

Last EDR Contact: 04/01/2013

Next Scheduled EDR Contact: 07/15/2013 Data Release Frequency: Varies

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 12/18/2012 Date Data Arrived at EDR: 03/13/2013 Date Made Active in Reports: 04/12/2013

Number of Days to Update: 30

Source: EPA

Telephone: 703-416-0223 Last EDR Contact: 03/13/2013

Next Scheduled EDR Contact: 06/24/2013 Data Release Frequency: Annually

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 09/14/2010 Date Data Arrived at EDR: 10/07/2011 Date Made Active in Reports: 03/01/2012

Number of Days to Update: 146

Source: Department of Energy Telephone: 505-845-0011 Last EDR Contact: 05/28/2013

Next Scheduled EDR Contact: 09/09/2013 Data Release Frequency: Varies

ODI: Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985 Date Data Arrived at EDR: 08/09/2004 Date Made Active in Reports: 09/17/2004

Number of Days to Update: 39

Source: Environmental Protection Agency

Telephone: 800-424-9346 Last EDR Contact: 06/09/2004 Next Scheduled EDR Contact: N/A

Data Release Frequency: No Update Planned

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations

A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009 Date Data Arrived at EDR: 05/07/2009 Date Made Active in Reports: 09/21/2009

Number of Days to Update: 137

Source: EPA, Region 9 Telephone: 415-947-4219 Last EDR Contact: 04/29/2013

Next Scheduled EDR Contact: 08/12/2013 Data Release Frequency: No Update Planned

US MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 02/05/2013 Date Data Arrived at EDR: 04/18/2013 Date Made Active in Reports: 05/10/2013

Number of Days to Update: 22

Source: Department of Labor, Mine Safety and Health Administration

Telephone: 303-231-5959 Last EDR Contact: 06/04/2013

Next Scheduled EDR Contact: 09/16/2013 Data Release Frequency: Semi-Annually

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2009 Date Data Arrived at EDR: 09/01/2011 Date Made Active in Reports: 01/10/2012

Number of Days to Update: 131

Source: EPA

Telephone: 202-566-0250 Last EDR Contact: 05/29/2013

Next Scheduled EDR Contact: 09/09/2013 Data Release Frequency: Annually

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2006 Date Data Arrived at EDR: 09/29/2010 Date Made Active in Reports: 12/02/2010

Number of Days to Update: 64

Source: EPA

Telephone: 202-260-5521 Last EDR Contact: 03/28/2013

Next Scheduled EDR Contact: 07/08/2013 Data Release Frequency: Every 4 Years

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act) FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009 Date Data Arrived at EDR: 04/16/2009 Date Made Active in Reports: 05/11/2009

Number of Days to Update: 25

Source: EPA/Office of Prevention, Pesticides and Toxic Substances

Telephone: 202-566-1667 Last EDR Contact: 05/28/2013

Next Scheduled EDR Contact: 09/09/2013 Data Release Frequency: Quarterly

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009 Date Data Arrived at EDR: 04/16/2009 Date Made Active in Reports: 05/11/2009

Number of Days to Update: 25

Source: EPA

Telephone: 202-566-1667 Last EDR Contact: 05/28/2013

Next Scheduled EDR Contact: 09/09/2013 Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing

A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006 Date Data Arrived at EDR: 03/01/2007 Date Made Active in Reports: 04/10/2007

Number of Days to Update: 40

Source: Environmental Protection Agency

Telephone: 202-564-2501 Last EDR Contact: 12/17/2007

Next Scheduled EDR Contact: 03/17/2008 Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing

A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006 Date Data Arrived at EDR: 03/01/2007 Date Made Active in Reports: 04/10/2007

Number of Days to Update: 40

Source: Environmental Protection Agency

Telephone: 202-564-2501 Last EDR Contact: 12/17/2008

Next Scheduled EDR Contact: 03/17/2008 Data Release Frequency: No Update Planned

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/2009 Date Data Arrived at EDR: 12/10/2010 Date Made Active in Reports: 02/25/2011

Number of Days to Update: 77

Source: EPA

Telephone: 202-564-4203 Last EDR Contact: 04/29/2013

Next Scheduled EDR Contact: 08/12/2013 Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program

Date of Government Version: 07/20/2011 Date Data Arrived at EDR: 11/10/2011 Date Made Active in Reports: 01/10/2012

Number of Days to Update: 61

Source: Environmental Protection Agency

Telephone: 202-564-5088 Last EDR Contact: 04/15/2013

Next Scheduled EDR Contact: 07/29/2013 Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 11/01/2012
Date Data Arrived at EDR: 01/16/2013
Date Made Active in Reports: 05/10/2013

Number of Days to Update: 114

Source: EPA

Telephone: 202-566-0500 Last EDR Contact: 04/19/2013

Next Scheduled EDR Contact: 07/29/2013 Data Release Frequency: Annually

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 06/21/2011 Date Data Arrived at EDR: 07/15/2011 Date Made Active in Reports: 09/13/2011

Number of Days to Update: 60

Source: Nuclear Regulatory Commission

Telephone: 301-415-7169 Last EDR Contact: 06/10/2013

Next Scheduled EDR Contact: 09/23/2013 Data Release Frequency: Quarterly

RADINFO: Radiation Information Database

The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 04/09/2013 Date Data Arrived at EDR: 04/11/2013 Date Made Active in Reports: 05/10/2013

Number of Days to Update: 29

Source: Environmental Protection Agency

Telephone: 202-343-9775 Last EDR Contact: 04/11/2013

Next Scheduled EDR Contact: 07/22/2013 Data Release Frequency: Quarterly

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 10/23/2011 Date Data Arrived at EDR: 12/13/2011 Date Made Active in Reports: 03/01/2012

Number of Days to Update: 79

Source: EPA

Telephone: (415) 947-8000 Last EDR Contact: 03/12/2013

Next Scheduled EDR Contact: 06/24/2013 Data Release Frequency: Quarterly

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995 Date Data Arrived at EDR: 07/03/1995 Date Made Active in Reports: 08/07/1995

Number of Days to Update: 35

Source: EPA

Telephone: 202-564-4104 Last EDR Contact: 06/02/2008

Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 05/08/2012 Date Data Arrived at EDR: 05/25/2012 Date Made Active in Reports: 07/10/2012 Number of Days to Update: 46 Source: Environmental Protection Agency Telephone: 202-564-8600 Last EDR Contact: 04/29/2013

Next Scheduled EDR Contact: 08/12/2013

Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2011 Date Data Arrived at EDR: 02/26/2013 Date Made Active in Reports: 04/19/2013

Number of Days to Update: 52

Source: EPA/NTIS Telephone: 800-424-9346 Last EDR Contact: 05/30/2013

Next Scheduled EDR Contact: 09/09/2013 Data Release Frequency: Biennially

US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 09/01/2007 Date Data Arrived at EDR: 11/19/2008 Date Made Active in Reports: 03/30/2009 Number of Days to Update: 131 Source: Drug Enforcement Administration Telephone: 202-307-1000

Last EDR Contact: 03/23/2009

Next Scheduled EDR Contact: 06/22/2009 Data Release Frequency: No Update Planned

PCB TRANSFORMER: PCB Transformer Registration Database

The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 02/01/2011 Date Data Arrived at EDR: 10/19/2011 Date Made Active in Reports: 01/10/2012

Number of Days to Update: 83

Source: Environmental Protection Agency

Telephone: 202-566-0517 Last EDR Contact: 05/03/2013

Next Scheduled EDR Contact: 08/12/2013 Data Release Frequency: Varies

COAL ASH DOE: Sleam-Electric Plan Operation Data

A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2005 Date Data Arrived at EDR: 08/07/2009 Date Made Active in Reports: 10/22/2009

Number of Days to Update: 76

Source: Department of Energy Telephone: 202-586-8719 Last EDR Contact: 04/18/2013

Next Scheduled EDR Contact: 07/29/2013 Data Release Frequency: Varies

FEMA UST: Underground Storage Tank Listing

A listing of all FEMA owned underground storage tanks.

Date of Government Version: 01/01/2010
Date Data Arrived at EDR: 02/16/2010
Date Made Active in Reports: 04/12/2010

Number of Days to Update: 55

Source: FEMA

Telephone: 202-646-5797 Last EDR Contact: 04/18/2013

Next Scheduled EDR Contact: 07/29/2013

Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List

A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 08/17/2010 Date Data Arrived at EDR: 01/03/2011 Date Made Active in Reports: 03/21/2011

Number of Days to Update: 77

Source: Environmental Protection Agency

Telephone: N/A

Last EDR Contact: 03/15/2013

Next Scheduled EDR Contact: 06/24/2013 Data Release Frequency: Varies

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 07/31/2012 Date Data Arrived at EDR: 10/09/2012 Date Made Active in Reports: 12/20/2012

Number of Days to Update: 72

Source: Environmental Protection Agency

Telephone: 703-603-8704 Last EDR Contact: 04/10/2013

Next Scheduled EDR Contact: 07/22/2013 Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 01/29/2013 Date Data Arrived at EDR: 02/14/2013 Date Made Active in Reports: 02/27/2013

Number of Days to Update: 13

Source: Environmental Protection Agency

Telephone: 703-603-8787 Last EDR Contact: 04/08/2013

Next Scheduled EDR Contact: 07/22/2013 Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001 Date Data Arrived at EDR: 10/27/2010 Date Made Active in Reports: 12/02/2010

Number of Days to Update: 36

Source: American Journal of Public Health

Telephone: 703-305-6451 Last EDR Contact: 12/02/2009 Next Scheduled EDR Contact: N/A

Data Release Frequency: No Update Planned

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 03/04/2013 Date Data Arrived at EDR: 03/15/2013 Date Made Active in Reports: 05/10/2013

Number of Days to Update: 56

Source: Environmental Protection Agency

Telephone: 202-566-1917 Last EDR Contact: 05/20/2013

Next Scheduled EDR Contact: 09/02/2013 Data Release Frequency: Quarterly

EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 12/31/2012 Date Data Arrived at EDR: 02/18/2013 Date Made Active in Reports: 05/10/2013

Number of Days to Update: 81

Source: Environmental Protection Agency

Telephone: 617-520-3000 Last EDR Contact: 05/10/2013

Next Scheduled EDR Contact: 08/26/2013 Data Release Frequency: Quarterly

US AIRS MINOR: Air Facility System Data A listing of minor source facilities.

Date of Government Version: 01/23/2013 Date Data Arrived at EDR: 01/30/2013 Date Made Active in Reports: 05/10/2013

Number of Days to Update: 100

Source: EPA

Telephone: 202-564-5962 Last EDR Contact: 04/01/2013

Next Scheduled EDR Contact: 07/15/2013 Data Release Frequency: Annually

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 01/23/2013 Date Data Arrived at EDR: 01/30/2013 Date Made Active in Reports: 05/10/2013

Number of Days to Update: 100

Source: EPA

Telephone: 202-564-5962 Last EDR Contact: 04/01/2013

Next Scheduled EDR Contact: 07/15/2013 Data Release Frequency: Annually

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 03/07/2011 Date Data Arrived at EDR: 03/09/2011 Date Made Active in Reports: 05/02/2011

Number of Days to Update: 54

Source: Environmental Protection Agency

Telephone: 615-532-8599 Last EDR Contact: 05/06/2013

Next Scheduled EDR Contact: 08/05/2013 Data Release Frequency: Varies

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 11/11/2011 Date Data Arrived at EDR: 05/18/2012 Date Made Active in Reports: 05/25/2012

Number of Days to Update: 7

Source: Environmental Protection Agency

Telephone: 703-308-4044 Last EDR Contact: 05/17/2013

Next Scheduled EDR Contact: 08/26/2013 Data Release Frequency: Varies

PRP: Potentially Responsible Parties

A listing of verified Potentially Responsible Parties

Date of Government Version: 12/02/2012 Date Data Arrived at EDR: 01/03/2013 Date Made Active in Reports: 03/13/2013

Number of Days to Update: 69

Source: EPA

Telephone: 202-564-6023 Last EDR Contact: 04/04/2013

Next Scheduled EDR Contact: 07/15/2013 Data Release Frequency: Quarterly

STATE AND LOCAL RECORDS

HIST CAL-SITES: Calsites Database

The Calsites database contains potential or confirmed hazardous substance release properties. In 1996, California EPA reevaluated and significantly reduced the number of sites in the Calsites database. No longer updated by the state agency. It has been replaced by ENVIROSTOR.

Date of Government Version: 08/08/2005 Date Data Arrived at EDR: 08/03/2006 Date Made Active in Reports: 08/24/2006

Number of Days to Update: 21

Source: Department of Toxic Substance Control

Telephone: 916-323-3400 Last EDR Contact: 02/23/2009

Next Scheduled EDR Contact: 05/25/2009 Data Release Frequency: No Update Planned

CA BOND EXP. PLAN: Bond Expenditure Plan

Department of Health Services developed a site-specific expenditure plan as the basis for an appropriation of Hazardous Substance Cleanup Bond Act funds. It is not updated.

Date of Government Version: 01/01/1989 Date Data Arrived at EDR: 07/27/1994 Date Made Active in Reports: 08/02/1994

Number of Days to Update: 6

Source: Department of Health Services

Telephone: 916-255-2118 Last EDR Contact: 05/31/1994 Next Scheduled EDR Contact: N/A

Data Release Frequency: No Update Planned

SCH: School Property Evaluation Program

This category contains proposed and existing school sites that are being evaluated by DTSC for possible hazardous materials contamination. In some cases, these properties may be listed in the CalSites category depending on the level of threat to public health and safety or the environment they pose.

Date of Government Version: 03/13/2013 Date Data Arrived at EDR: 03/14/2013 Date Made Active in Reports: 03/27/2013

Number of Days to Update: 13

Source: Department of Toxic Substances Control

Telephone: 916-323-3400 Last EDR Contact: 05/07/2013

Next Scheduled EDR Contact: 08/19/2013 Data Release Frequency: Quarterly

TOXIC PITS: Toxic Pits Cleanup Act Sites

Toxic PITS Cleanup Act Sites. TOXIC PITS identifies sites suspected of containing hazardous substances where cleanup has not yet been completed.

Date of Government Version: 07/01/1995 Date Data Arrived at EDR: 08/30/1995 Date Made Active in Reports: 09/26/1995

Number of Days to Update: 27

Source: State Water Resources Control Board

Telephone: 916-227-4364 Last EDR Contact: 01/26/2009

Next Scheduled EDR Contact: 04/27/2009 Data Release Frequency: No Update Planned

SWF/LF (SWIS): Solid Waste Information System

Active, Closed and Inactive Landfills. SWF/LF records typically contain an inventory of solid waste disposal facilities or landfills. These may be active or inactive facilities or open dumps that failed to meet RCRA Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 02/18/2013 Date Data Arrived at EDR: 02/18/2013 Date Made Active in Reports: 03/20/2013

Number of Days to Update: 30

Source: Department of Resources Recycling and Recovery

Telephone: 916-341-6320 Last EDR Contact: 05/21/2013

Next Scheduled EDR Contact: 09/02/2013 Data Release Frequency: Quarterly

UIC: UIC Listing

A listing of underground control injection wells.

Date of Government Version: 03/05/2013 Date Data Arrived at EDR: 03/19/2013 Date Made Active in Reports: 03/27/2013

Number of Days to Update: 8

Source: Deaprtment of Conservation

Telephone: 916-445-2408 Last EDR Contact: 03/19/2013

Next Scheduled EDR Contact: 12/31/2012 Data Release Frequency: Varies

WMUDS/SWAT: Waste Management Unit Database

Waste Management Unit Database System. WMUDS is used by the State Water Resources Control Board staff and the Regional Water Quality Control Boards for program tracking and inventory of waste management units. WMUDS is composed of the following databases: Facility Information, Scheduled Inspections Information, Waste Management Unit Information, SWAT Program Information, SWAT Report Summary Information, SWAT Report Summary Data, Chapter 15 (formerly Subchapter 15) Information, Chapter 15 Monitoring Parameters, TPCA Program Information, RCRA Program Information, Closure Information, and Interested Parties Information.

Date of Government Version: 04/01/2000 Date Data Arrived at EDR: 04/10/2000 Date Made Active in Reports: 05/10/2000

Number of Days to Update: 30

Source: State Water Resources Control Board

Telephone: 916-227-4448 Last EDR Contact: 05/10/2013

Next Scheduled EDR Contact: 08/26/2013 Data Release Frequency: No Update Planned

WDS: Waste Discharge System

Sites which have been issued waste discharge requirements.

Date of Government Version: 06/19/2007 Date Data Arrived at EDR: 06/20/2007 Date Made Active in Reports: 06/29/2007

Number of Days to Update: 9

Source: State Water Resources Control Board

Telephone: 916-341-5227 Last EDR Contact: 05/28/2013

Next Scheduled EDR Contact: 09/09/2013 Data Release Frequency: Quarterly

NPDES: NPDES Permits Listing

A listing of NPDES permits, including stormwater.

Date of Government Version: 02/18/2013 Date Data Arrived at EDR: 02/18/2013 Date Made Active in Reports: 03/20/2013

Number of Days to Update: 30

Source: State Water Resources Control Board

Telephone: 916-445-9379 Last EDR Contact: 05/21/2013

Next Scheduled EDR Contact: 09/02/2013 Data Release Frequency: Quarterly

CORTESE: "Cortese" Hazardous Waste & Substances Sites List

The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste

Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites).

Date of Government Version: 04/01/2013 Date Data Arrived at EDR: 04/02/2013 Date Made Active in Reports: 05/14/2013

Number of Days to Update: 42

Source: CAL EPA/Office of Emergency Information

Telephone: 916-323-3400 Last EDR Contact: 04/02/2013

Next Scheduled EDR Contact: 07/15/2013 Data Release Frequency: Quarterly

HIST CORTESE: Hazardous Waste & Substance Site List

The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSITES]. This listing is no longer updated by the

state agency.

Date of Government Version: 04/01/2001 Date Data Arrived at EDR: 01/22/2009 Date Made Active in Reports: 04/08/2009

Number of Days to Update: 76

Source: Department of Toxic Substances Control

Telephone: 916-323-3400 Last EDR Contact: 01/22/2009 Next Scheduled EDR Contact: N/A

Data Release Frequency: No Update Planned

SWRCY: Recycler Database

A listing of recycling facilities in California.

Date of Government Version: 03/18/2013 Date Data Arrived at EDR: 03/19/2013 Date Made Active in Reports: 03/27/2013

Number of Days to Update: 8

Source: Department of Conservation

Telephone: 916-323-3836 Last EDR Contact: 03/19/2013

Next Scheduled EDR Contact: 07/01/2013 Data Release Frequency: Quarterly

LUST REG 9: Leaking Underground Storage Tank Report

Orange, Riverside, San Diego counties. For more current information, please refer to the State Water Resources

Control Board's LUST database.

Date of Government Version: 03/01/2001 Date Data Arrived at EDR: 04/23/2001 Date Made Active in Reports: 05/21/2001

Number of Days to Update: 28

Source: California Regional Water Quality Control Board San Diego Region (9)

Telephone: 858-637-5595 Last EDR Contact: 09/26/2011

Next Scheduled EDR Contact: 01/09/2012 Data Release Frequency: No Update Planned

LUST REG 6V: Leaking Underground Storage Tank Case Listing

Leaking Underground Storage Tank locations. Inyo, Kern, Los Angeles, Mono, San Bernardino counties.

Date of Government Version: 06/07/2005 Date Data Arrived at EDR: 06/07/2005 Date Made Active in Reports: 06/29/2005

Number of Days to Update: 22

Source: California Regional Water Quality Control Board Victorville Branch Office (6)

Telephone: 760-241-7365 Last EDR Contact: 09/12/2011

Next Scheduled EDR Contact: 12/26/2011 Data Release Frequency: No Update Planned

LUST REG 6L: Leaking Underground Storage Tank Case Listing

For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/09/2003 Date Data Arrived at EDR: 09/10/2003 Date Made Active in Reports: 10/07/2003

Number of Days to Update: 27

Source: California Regional Water Quality Control Board Lahontan Region (6)

Telephone: 530-542-5572 Last EDR Contact: 09/12/2011

Next Scheduled EDR Contact: 12/26/2011 Data Release Frequency: No Update Planned

LUST REG 5: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank locations. Alameda, Alpine, Amador, Butte, Colusa, Contra Costa, Calveras, El Dorado, Fresno, Glenn, Kern, Kings, Lake, Lassen, Madera, Mariposa, Merced, Modoc, Napa, Nevada, Placer, Plumas, Sacramento, San Joaquin, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Tuolumne, Yolo, Yuba counties.

Date of Government Version: 07/01/2008 Date Data Arrived at EDR: 07/22/2008 Date Made Active in Reports: 07/31/2008

Number of Days to Update: 9

Source: California Regional Water Quality Control Board Central Valley Region (5)

Telephone: 916-464-4834 Last EDR Contact: 07/01/2011

Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: No Update Planned

LUST REG 4: Underground Storage Tank Leak List

Los Angeles, Ventura counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/07/2004 Date Data Arrived at EDR: 09/07/2004 Date Made Active in Reports: 10/12/2004

Number of Days to Update: 35

Source: California Regional Water Quality Control Board Los Angeles Region (4)

Telephone: 213-576-6710 Last EDR Contact: 09/06/2011

Next Scheduled EDR Contact: 12/19/2011
Data Release Frequency: No Update Planned

LUST REG 3: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank locations. Monterey, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz counties.

Date of Government Version: 05/19/2003 Date Data Arrived at EDR: 05/19/2003 Date Made Active in Reports: 06/02/2003

Number of Days to Update: 14

Source: California Regional Water Quality Control Board Central Coast Region (3)

Telephone: 805-542-4786 Last EDR Contact: 07/18/2011

Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: No Update Planned

LUST REG 2: Fuel Leak List

Leaking Underground Storage Tank locations. Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma counties.

Date of Government Version: 09/30/2004 Date Data Arrived at EDR: 10/20/2004 Date Made Active in Reports: 11/19/2004

Number of Days to Update: 30

Source: California Regional Water Quality Control Board San Francisco Bay Region (2)

Telephone: 510-622-2433 Last EDR Contact: 09/19/2011

Next Scheduled EDR Contact: 01/02/2012 Data Release Frequency: Quarterly

LUST REG 1: Active Toxic Site Investigation

Del Norte, Humboldt, Lake, Mendocino, Modoc, Siskiyou, Sonoma, Trinity counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/01/2001 Date Data Arrived at EDR: 02/28/2001 Date Made Active in Reports: 03/29/2001

Number of Days to Update: 29

Source: California Regional Water Quality Control Board North Coast (1)

Telephone: 707-570-3769 Last EDR Contact: 08/01/2011

Next Scheduled EDR Contact: 11/14/2011 Data Release Frequency: No Update Planned

LUST: Geotracker's Leaking Underground Fuel Tank Report

Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state. For more information on a particular leaking underground storage tank sites, please contact the appropriate regulatory agency.

Date of Government Version: 03/18/2013 Date Data Arrived at EDR: 03/19/2013 Date Made Active in Reports: 03/27/2013

Number of Days to Update: 8

Source: State Water Resources Control Board

Telephone: see region list Last EDR Contact: 05/02/2013

Next Scheduled EDR Contact: 07/01/2013 Data Release Frequency: Quarterly

LUST REG 7: Leaking Underground Storage Tank Case Listing

Leaking Underground Storage Tank locations. Imperial, Riverside, San Diego, Santa Barbara counties.

Date of Government Version: 02/26/2004 Date Data Arrived at EDR: 02/26/2004 Date Made Active in Reports: 03/24/2004

Number of Days to Update: 27

Source: California Regional Water Quality Control Board Colorado River Basin Region (7)

Telephone: 760-776-8943 Last EDR Contact: 08/01/2011

Next Scheduled EDR Contact: 11/14/2011 Data Release Frequency: No Update Planned

LUST REG 8: Leaking Underground Storage Tanks

California Regional Water Quality Control Board Santa Ana Region (8). For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/14/2005 Date Data Arrived at EDR: 02/15/2005 Date Made Active in Reports: 03/28/2005

Number of Days to Update: 41

Source: California Regional Water Quality Control Board Santa Ana Region (8)

Telephone: 909-782-4496 Last EDR Contact: 08/15/2011

Next Scheduled EDR Contact: 11/28/2011 Data Release Frequency: Varies

CA FID UST: Facility Inventory Database

The Facility Inventory Database (FID) contains a historical listing of active and inactive underground storage tank locations from the State Water Resource Control Board. Refer to local/county source for current data.

Date of Government Version: 10/31/1994 Date Data Arrived at EDR: 09/05/1995 Date Made Active in Reports: 09/29/1995

Number of Days to Update: 24

Source: California Environmental Protection Agency

Telephone: 916-341-5851 Last EDR Contact: 12/28/1998 Next Scheduled EDR Contact: N/A

Data Release Frequency: No Update Planned

SLIC: Statewide SLIC Cases

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 03/18/2013 Date Data Arrived at EDR: 03/19/2013 Date Made Active in Reports: 03/27/2013

Number of Days to Update: 8

Source: State Water Resources Control Board

Telephone: 866-480-1028 Last EDR Contact: 05/02/2013

Next Scheduled EDR Contact: 07/01/2013 Data Release Frequency: Varies

SLIC REG 1: Active Toxic Site Investigations

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2003 Date Data Arrived at EDR: 04/07/2003 Date Made Active in Reports: 04/25/2003

Number of Days to Update: 18

Source: California Regional Water Quality Control Board, North Coast Region (1)

Telephone: 707-576-2220 Last EDR Contact: 08/01/2011

Next Scheduled EDR Contact: 11/14/2011 Data Release Frequency: No Update Planned

SLIC REG 2: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/30/2004 Date Data Arrived at EDR: 10/20/2004 Date Made Active in Reports: 11/19/2004

Number of Days to Update: 30

Source: Regional Water Quality Control Board San Francisco Bay Region (2)

Telephone: 510-286-0457 Last EDR Contact: 09/19/2011

Next Scheduled EDR Contact: 01/02/2012 Data Release Frequency: Quarterly

SLIC REG 3: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/18/2006 Date Data Arrived at EDR: 05/18/2006 Date Made Active in Reports: 06/15/2006

Number of Days to Update: 28

Source: California Regional Water Quality Control Board Central Coast Region (3)

Telephone: 805-549-3147 Last EDR Contact: 07/18/2011

Next Scheduled EDR Contact: 10/31/2011 Data Release Frequency: Semi-Annually

SLIC REG 4: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality

from spills, leaks, and similar discharges.

Date of Government Version: 11/17/2004 Date Data Arrived at EDR: 11/18/2004 Date Made Active in Reports: 01/04/2005

Number of Days to Update: 47

Source: Region Water Quality Control Board Los Angeles Region (4)

Telephone: 213-576-6600 Last EDR Contact: 07/01/2011

Next Scheduled EDR Contact: 10/17/2011

Data Release Frequency: Varies

SLIC REG 5: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality

from spills, leaks, and similar discharges.

Date of Government Version: 04/01/2005 Date Data Arrived at EDR: 04/05/2005 Date Made Active in Reports: 04/21/2005

Number of Days to Update: 16

Source: Regional Water Quality Control Board Central Valley Region (5)

Telephone: 916-464-3291 Last EDR Contact: 09/12/2011

Next Scheduled EDR Contact: 12/26/2011 Data Release Frequency: Semi-Annually

SLIC REG 6V: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality

from spills, leaks, and similar discharges.

Date of Government Version: 05/24/2005 Date Data Arrived at EDR: 05/25/2005 Date Made Active in Reports: 06/16/2005

Number of Days to Update: 22

Source: Regional Water Quality Control Board, Victorville Branch

Telephone: 619-241-6583 Last EDR Contact: 08/15/2011

Next Scheduled EDR Contact: 11/28/2011 Data Release Frequency: Semi-Annually

SLIC REG 6L: SLIC Sites

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality

from spills, leaks, and similar discharges.

Date of Government Version: 09/07/2004 Date Data Arrived at EDR: 09/07/2004 Date Made Active in Reports: 10/12/2004

Number of Days to Update: 35

Source: California Regional Water Quality Control Board, Lahontan Region

Telephone: 530-542-5574 Last EDR Contact: 08/15/2011

Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

SLIC REG 7: SLIC List

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality

from spills, leaks, and similar discharges.

Date of Government Version: 11/24/2004 Date Data Arrived at EDR: 11/29/2004 Date Made Active in Reports: 01/04/2005

Number of Days to Update: 36

Source: California Regional Quality Control Board, Colorado River Basin Region

Telephone: 760-346-7491 Last EDR Contact: 08/01/2011

Next Scheduled EDR Contact: 11/14/2011 Data Release Frequency: No Update Planned

SLIC REG 8: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality

from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2008 Date Data Arrived at EDR: 04/03/2008 Date Made Active in Reports: 04/14/2008

Number of Days to Update: 11

Source: California Region Water Quality Control Board Santa Ana Region (8)

Telephone: 951-782-3298 Last EDR Contact: 09/12/2011

Next Scheduled EDR Contact: 12/26/2011 Data Release Frequency: Semi-Annually

SLIC REG 9: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality

from spills, leaks, and similar discharges.

Date of Government Version: 09/10/2007 Date Data Arrived at EDR: 09/11/2007 Date Made Active in Reports: 09/28/2007

Number of Days to Update: 17

Source: California Regional Water Quality Control Board San Diego Region (9)

Telephone: 858-467-2980 Last EDR Contact: 08/08/2011

Next Scheduled EDR Contact: 11/21/2011 Data Release Frequency: Annually

UST: Active UST Facilities

Active UST facilities gathered from the local regulatory agencies

Date of Government Version: 03/18/2013 Date Data Arrived at EDR: 03/19/2013 Date Made Active in Reports: 04/18/2013

Number of Days to Update: 30

Source: SWRCB Telephone: 916-341-5851 Last EDR Contact: 05/02/2013

Next Scheduled EDR Contact: 07/01/2013 Data Release Frequency: Semi-Annually

UST MENDOCINO: Mendocino County UST Database

A listing of underground storage tank locations in Mendocino County.

Date of Government Version: 09/23/2009 Date Data Arrived at EDR: 09/23/2009 Date Made Active in Reports: 10/01/2009

Number of Days to Update: 8

Source: Department of Public Health

Telephone: 707-463-4466 Last EDR Contact: 06/03/2013

Next Scheduled EDR Contact: 09/16/2013 Data Release Frequency: Annually

HIST UST: Hazardous Substance Storage Container Database

The Hazardous Substance Storage Container Database is a historical listing of UST sites. Refer to local/county source for current data.

Date of Government Version: 10/15/1990 Date Data Arrived at EDR: 01/25/1991 Date Made Active in Reports: 02/12/1991

Number of Days to Update: 18

Source: State Water Resources Control Board

Telephone: 916-341-5851 Last EDR Contact: 07/26/2001 Next Scheduled EDR Contact: N/A

Data Release Frequency: No Update Planned

LIENS: Environmental Liens Listing

A listing of property locations with environmental liens for California where DTSC is a lien holder.

Date of Government Version: 03/15/2013 Date Data Arrived at EDR: 03/15/2013 Date Made Active in Reports: 03/27/2013

Number of Days to Update: 12

Source: Department of Toxic Substances Control

Telephone: 916-323-3400 Last EDR Contact: 06/10/2013

Next Scheduled EDR Contact: 09/23/2013

Data Release Frequency: Varies

SWEEPS UST: SWEEPS UST Listing

Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained.

The local agency is the contact for more information on a site on the SWEEPS list.

Date of Government Version: 06/01/1994 Date Data Arrived at EDR: 07/07/2005 Date Made Active in Reports: 08/11/2005

Number of Days to Update: 35

Source: State Water Resources Control Board

Telephone: N/A

Last EDR Contact: 06/03/2005 Next Scheduled EDR Contact: N/A

Data Release Frequency: No Update Planned

CHMIRS: California Hazardous Material Incident Report System

California Hazardous Material Incident Reporting System. CHMIRS contains information on reported hazardous material incidents (accidental releases or spills).

Date of Government Version: 12/06/2012 Date Data Arrived at EDR: 01/29/2013 Date Made Active in Reports: 03/19/2013

Number of Days to Update: 49

Source: Office of Emergency Services

Telephone: 916-845-8400 Last EDR Contact: 05/01/2013

Next Scheduled EDR Contact: 08/12/2013 Data Release Frequency: Varies

LDS: Land Disposal Sites Listing

The Land Disposal program regulates of waste discharge to land for treatment, storage and disposal in waste management

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Date of Government Version: 03/18/2013 Date Data Arrived at EDR: 03/19/2013 Date Made Active in Reports: 03/27/2013

Number of Days to Update: 8

Source: State Water Quality Control Board

Telephone: 866-480-1028 Last EDR Contact: 05/02/2013

Next Scheduled EDR Contact: 07/01/2013 Data Release Frequency: Quarterly

AST: Aboveground Petroleum Storage Tank Facilities

Registered Aboveground Storage Tanks.

Date of Government Version: 08/01/2009 Date Data Arrived at EDR: 09/10/2009 Date Made Active in Reports: 10/01/2009

Number of Days to Update: 21

Source: State Water Resources Control Board

Telephone: 916-327-5092 Last EDR Contact: 04/08/2013

Next Scheduled EDR Contact: 07/22/2013 Data Release Frequency: Quarterly

MCS: Military Cleanup Sites Listing

The State Water Resources Control Board and nine Regional Water Quality Control Boards partner with the Department of Defense (DoD) through the Defense and State Memorandum of Agreement (DSMOA) to oversee the investigation and remediation of water quality issues at military facilities.

Date of Government Version: 03/18/2013 Date Data Arrived at EDR: 03/19/2013 Date Made Active in Reports: 03/27/2013

Number of Days to Update: 8

Source: State Water Resources Control Board

Telephone: 866-480-1028 Last EDR Contact: 05/02/2013

Next Scheduled EDR Contact: 07/01/2013 Data Release Frequency: Quarterly

NOTIFY 65: Proposition 65 Records

Listings of all Proposition 65 incidents reported to counties by the State Water Resources Control Board and the Regional Water Quality Control Board. This database is no longer updated by the reporting agency.

Date of Government Version: 10/21/1993 Date Data Arrived at EDR: 11/01/1993 Date Made Active in Reports: 11/19/1993

Number of Days to Update: 18

Source: State Water Resources Control Board

Telephone: 916-445-3846 Last EDR Contact: 03/25/2013

Next Scheduled EDR Contact: 07/08/2013 Data Release Frequency: No Update Planned

DEED: Deed Restriction Listing

Site Mitigation and Brownfields Reuse Program Facility Sites with Deed Restrictions & Hazardous Waste Management Program Facility Sites with Deed / Land Use Restriction. The DTSC Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents deed restrictions that are active. Some sites have multiple deed restrictions. The DTSC Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

Date of Government Version: 03/11/2013 Date Data Arrived at EDR: 03/12/2013 Date Made Active in Reports: 03/25/2013

Number of Days to Update: 13

Source: Department of Toxic Substances Control

Telephone: 916-323-3400 Last EDR Contact: 03/12/2013

Next Scheduled EDR Contact: 06/24/2013 Data Release Frequency: Semi-Annually

VCP: Voluntary Cleanup Program Properties

Contains low threat level properties with either confirmed or unconfirmed releases and the project proponents have request that DTSC oversee investigation and/or cleanup activities and have agreed to provide coverage for DTSC's costs.

Date of Government Version: 03/13/2013 Date Data Arrived at EDR: 03/14/2013 Date Made Active in Reports: 03/27/2013

Number of Days to Update: 13

Source: Department of Toxic Substances Control

Telephone: 916-323-3400 Last EDR Contact: 05/07/2013

Next Scheduled EDR Contact: 08/19/2013 Data Release Frequency: Quarterly

DRYCLEANERS: Cleaner Facilities

A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial; garment pressing and cleaner's agents; linen supply; coin-operated laundries and cleaning; drycleaning plants, except rugs; carpet and upholster cleaning; industrial launderers; laundry and garment services.

Date of Government Version: 12/11/2012 Date Data Arrived at EDR: 12/12/2012 Date Made Active in Reports: 01/04/2013

Number of Days to Update: 23

Source: Department of Toxic Substance Control

Telephone: 916-327-4498 Last EDR Contact: 06/10/2013

Next Scheduled EDR Contact: 12/24/2012 Data Release Frequency: Annually

WIP: Well Investigation Program Case List

Well Investigation Program case in the San Gabriel and San Fernando Valley area.

Date of Government Version: 07/03/2009 Date Data Arrived at EDR: 07/21/2009 Date Made Active in Reports: 08/03/2009

Number of Days to Update: 13

Source: Los Angeles Water Quality Control Board

Telephone: 213-576-6726 Last EDR Contact: 04/01/2013

Next Scheduled EDR Contact: 07/15/2013 Data Release Frequency: Varies

CDL: Clandestine Drug Labs

A listing of drug lab locations. Listing of a location in this database does not indicate that any illegal drug lab materials were or were not present there, and does not constitute a determination that the location either requires or does not require additional cleanup work.

Date of Government Version: 12/31/2012 Date Data Arrived at EDR: 04/03/2013 Date Made Active in Reports: 05/14/2013

Number of Days to Update: 41

Source: Department of Toxic Substances Control

Telephone: 916-255-6504 Last EDR Contact: 04/01/2013

Next Scheduled EDR Contact: 07/15/2013

Data Release Frequency: Varies

ENF: Enforcement Action Listing

A listing of Water Board Enforcement Actions. Formal is everything except Oral/Verbal Communication, Notice of

Violation, Expedited Payment Letter, and Staff Enforcement Letter.

Date of Government Version: 04/26/2013 Date Data Arrived at EDR: 04/29/2013 Date Made Active in Reports: 05/16/2013

Number of Days to Update: 17

Source: State Water Resoruces Control Board

Telephone: 916-445-9379 Last EDR Contact: 04/26/2013

Next Scheduled EDR Contact: 08/12/2013

Data Release Frequency: Varies

RESPONSE: State Response Sites

Identifies confirmed release sites where DTSC is involved in remediation, either in a lead or oversight capacity.

These confirmed release sites are generally high-priority and high potential risk.

Date of Government Version: 03/13/2013 Date Data Arrived at EDR: 03/14/2013 Date Made Active in Reports: 03/27/2013

Number of Days to Update: 13

Source: Department of Toxic Substances Control

Telephone: 916-323-3400 Last EDR Contact: 05/07/2013

Next Scheduled EDR Contact: 08/19/2013 Data Release Frequency: Quarterly

HAZNET: Facility and Manifest Data

Facility and Manifest Data. The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000 - 1,000,000 annually, representing approximately 350,000 - 500,000 shipments. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, and disposal method.

Date of Government Version: 12/31/2011 Date Data Arrived at EDR: 06/22/2012 Date Made Active in Reports: 07/06/2012

Number of Days to Update: 14

Source: California Environmental Protection Agency

Telephone: 916-255-1136 Last EDR Contact: 04/19/2013

Next Scheduled EDR Contact: 07/29/2013 Data Release Frequency: Annually

EMI: Emissions Inventory Data

Toxics and criteria pollutant emissions data collected by the ARB and local air pollution agencies.

Date of Government Version: 12/31/2008 Date Data Arrived at EDR: 09/29/2010 Date Made Active in Reports: 10/18/2010

Number of Days to Update: 19

Source: California Air Resources Board

Telephone: 916-322-2990 Last EDR Contact: 03/29/2013

Next Scheduled EDR Contact: 07/08/2013

Data Release Frequency: Varies

HAULERS: Registered Waste Tire Haulers Listing A listing of registered waste tire haulers.

> Date of Government Version: 04/26/2013 Date Data Arrived at EDR: 04/26/2013 Date Made Active in Reports: 05/16/2013

Number of Days to Update: 20

Source: Integrated Waste Management Board

Telephone: 916-341-6422 Last EDR Contact: 06/10/2013

Next Scheduled EDR Contact: 09/02/2013 Data Release Frequency: Varies

ENVIROSTOR: EnviroStor Database

The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifies sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

Date of Government Version: 03/13/2013 Date Data Arrived at EDR: 03/14/2013 Date Made Active in Reports: 03/27/2013

Number of Days to Update: 13

Source: Department of Toxic Substances Control

Telephone: 916-323-3400 Last EDR Contact: 05/07/2013

Next Scheduled EDR Contact: 08/19/2013 Data Release Frequency: Quarterly

HWT: Registered Hazardous Waste Transporter Database

A listing of hazardous waste transporters. In California, unless specifically exempted, it is unlawful for any person to transport hazardous wastes unless the person holds a valid registration issued by DTSC. A hazardous waste transporter registration is valid for one year and is assigned a unique registration number.

Date of Government Version: 04/15/2013 Date Data Arrived at EDR: 04/16/2013 Date Made Active in Reports: 05/17/2013

Number of Days to Update: 31

Source: Department of Toxic Substances Control

Telephone: 916-440-7145 Last EDR Contact: 04/16/2013

Next Scheduled EDR Contact: 07/29/2013 Data Release Frequency: Quarterly

MWMP: Medical Waste Management Program Listing

The Medical Waste Management Program (MWMP) ensures the proper handling and disposal of medical waste by permitting and inspecting medical waste Offsite Treatment Facilities (PDF) and Transfer Stations (PDF) throughout the state. MWMP also oversees all Medical Waste Transporters.

Date of Government Version: 03/06/2013 Date Data Arrived at EDR: 03/12/2013 Date Made Active in Reports: 03/25/2013

Number of Days to Update: 13

Source: Department of Public Health Telephone: 916-558-1784 Last EDR Contact: 06/10/2013

Next Scheduled EDR Contact: 09/23/2013 Data Release Frequency: Varies

PROC: Certified Processors Database A listing of certified processors.

Date of Government Version: 03/18/2013 Date Data Arrived at EDR: 03/19/2013 Date Made Active in Reports: 03/27/2013

Number of Days to Update: 8

Source: Department of Conservation

Telephone: 916-323-3836 Last EDR Contact: 03/19/2013

Next Scheduled EDR Contact: 07/01/2013 Data Release Frequency: Quarterly

HWP: EnviroStor Permitted Facilities Listing

Detailed information on permitted hazardous waste facilities and corrective action ("cleanups") tracked in EnviroStor.

Date of Government Version: 02/25/2013 Date Data Arrived at EDR: 02/26/2013 Date Made Active in Reports: 03/25/2013

Number of Days to Update: 27

Source: Department of Toxic Substances Control

Telephone: 916-323-3400 Last EDR Contact: 05/29/2013

Next Scheduled EDR Contact: 09/09/2013
Data Release Frequency: Quarterly

TRIBAL RECORDS

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2005 Date Data Arrived at EDR: 12/08/2006 Date Made Active in Reports: 01/11/2007

Number of Days to Update: 34

Source: USGS

Telephone: 202-208-3710 Last EDR Contact: 04/19/2013

Next Scheduled EDR Contact: 07/29/2013 Data Release Frequency: Semi-Annually

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands

Location of open dumps on Indian land.

Date of Government Version: 12/31/1998 Date Data Arrived at EDR: 12/03/2007 Date Made Active in Reports: 01/24/2008

Number of Days to Update: 52

Source: Environmental Protection Agency

Telephone: 703-308-8245 Last EDR Contact: 05/03/2013

Next Scheduled EDR Contact: 08/19/2013 Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 08/27/2012 Date Data Arrived at EDR: 08/28/2012 Date Made Active in Reports: 10/16/2012

Number of Days to Update: 49

Source: EPA Region 8 Telephone: 303-312-6271 Last EDR Contact: 04/29/2013

Next Scheduled EDR Contact: 08/12/2013 Data Release Frequency: Quarterly

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 12/31/2012 Date Data Arrived at EDR: 02/28/2013 Date Made Active in Reports: 04/12/2013

Number of Days to Update: 43

Source: EPA Region 7 Telephone: 913-551-7003 Last EDR Contact: 04/29/2013

Next Scheduled EDR Contact: 08/12/2013 Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 02/06/2013 Date Data Arrived at EDR: 02/08/2013 Date Made Active in Reports: 04/12/2013

Number of Days to Update: 63

Source: EPA Region 4 Telephone: 404-562-8677 Last EDR Contact: 04/29/2013

Next Scheduled EDR Contact: 08/12/2013 Data Release Frequency: Semi-Annually

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 09/28/2012 Date Data Arrived at EDR: 11/01/2012 Date Made Active in Reports: 04/12/2013

Number of Days to Update: 162

Source: EPA Region 1 Telephone: 617-918-1313 Last EDR Contact: 05/01/2013

Next Scheduled EDR Contact: 08/12/2013 Data Release Frequency: Varies

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 03/01/2013 Date Data Arrived at EDR: 03/01/2013 Date Made Active in Reports: 04/12/2013

Number of Days to Update: 42

Source: Environmental Protection Agency

Telephone: 415-972-3372 Last EDR Contact: 04/29/2013

Next Scheduled EDR Contact: 08/12/2013 Data Release Frequency: Quarterly

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 02/05/2013 Date Data Arrived at EDR: 02/06/2013 Date Made Active in Reports: 04/12/2013

Number of Days to Update: 65

Source: EPA Region 10 Telephone: 206-553-2857 Last EDR Contact: 04/29/2013

Next Scheduled EDR Contact: 08/12/2013 Data Release Frequency: Quarterly

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 09/12/2011 Date Data Arrived at EDR: 09/13/2011 Date Made Active in Reports: 11/11/2011

Number of Days to Update: 59

Source: EPA Region 6 Telephone: 214-665-6597 Last EDR Contact: 04/29/2013

Next Scheduled EDR Contact: 08/12/2013 Data Release Frequency: Varies

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal

ivalions).

Date of Government Version: 09/28/2012 Date Data Arrived at EDR: 11/07/2012 Date Made Active in Reports: 04/12/2013

Number of Days to Update: 156

Source: EPA, Region 1 Telephone: 617-918-1313 Last EDR Contact: 04/29/2013

Next Scheduled EDR Contact: 08/12/2013 Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 02/06/2013 Date Data Arrived at EDR: 02/08/2013 Date Made Active in Reports: 04/12/2013

Number of Days to Update: 63

Source: EPA Region 4 Telephone: 404-562-9424 Last EDR Contact: 04/29/2013

Next Scheduled EDR Contact: 08/12/2013 Data Release Frequency: Semi-Annually

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 08/02/2012 Date Data Arrived at EDR: 08/03/2012 Date Made Active in Reports: 11/05/2012

Number of Days to Update: 94

Source: EPA Region 5 Telephone: 312-886-6136 Last EDR Contact: 04/29/2013

Next Scheduled EDR Contact: 08/12/2013 Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 05/10/2011 Date Data Arrived at EDR: 05/11/2011 Date Made Active in Reports: 06/14/2011

Number of Days to Update: 34

Source: EPA Region 6 Telephone: 214-665-7591 Last EDR Contact: 04/29/2013

Next Scheduled EDR Contact: 08/12/2013 Data Release Frequency: Semi-Annually

INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 12/31/2012 Date Data Arrived at EDR: 02/28/2013 Date Made Active in Reports: 04/12/2013

Number of Days to Update: 43

Source: EPA Region 7 Telephone: 913-551-7003 Last EDR Contact: 04/29/2013

Next Scheduled EDR Contact: 08/12/2013 Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 08/27/2012 Date Data Arrived at EDR: 08/28/2012 Date Made Active in Reports: 10/16/2012

Number of Days to Update: 49

Source: EPA Region 8 Telephone: 303-312-6137 Last EDR Contact: 04/29/2013

Next Scheduled EDR Contact: 08/12/2013 Data Release Frequency: Quarterly

INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 02/21/2013 Date Data Arrived at EDR: 02/26/2013 Date Made Active in Reports: 04/12/2013

Number of Days to Update: 45

Source: EPA Region 9 Telephone: 415-972-3368 Last EDR Contact: 04/29/2013

Next Scheduled EDR Contact: 08/12/2013
Data Release Frequency: Quarterly

INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 02/05/2013 Date Data Arrived at EDR: 02/06/2013 Date Made Active in Reports: 04/12/2013

Number of Days to Update: 65

Source: EPA Region 10 Telephone: 206-553-2857 Last EDR Contact: 04/29/2013

Next Scheduled EDR Contact: 08/12/2013
Data Release Frequency: Quarterly

INDIAN VCP R1: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 09/28/2012 Date Data Arrived at EDR: 10/02/2012 Date Made Active in Reports: 10/16/2012

Number of Days to Update: 14

Source: EPA, Region 1 Telephone: 617-918-1102 Last EDR Contact: 04/05/2013

Next Scheduled EDR Contact: 07/15/2013 Data Release Frequency: Varies

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng

A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008 Date Data Arrived at EDR: 04/22/2008 Date Made Active in Reports: 05/19/2008

Number of Days to Update: 27

Source: EPA, Region 7 Telephone: 913-551-7365 Last EDR Contact: 04/20/2009

Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

EDR PROPRIETARY RECORDS

EDR MGP: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A Source: EDR, Inc.
Date Data Arrived at EDR: N/A Telephone: N/A
Date Made Active in Reports: N/A Last EDR Contact: N/A

Number of Days to Update: N/A Next Scheduled EDR Contact: N/A

Data Release Frequency: No Update Planned

EDR US Hist Auto Stat: EDR Exclusive Historic Gas Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A Source: EDR, Inc.
Date Data Arrived at EDR: N/A Telephone: N/A
Date Made Active in Reports: N/A Last EDR Contact: N/A

Number of Days to Update: N/A Next Scheduled EDR Contact: N/A Data Release Frequency: Varies

EDR US Hist Cleaners: EDR Exclusive Historic Dry Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A Source: EDR, Inc.
Date Data Arrived at EDR: N/A Telephone: N/A
Date Made Active in Reports: N/A Last EDR Contact: N/A

Number of Days to Update: N/A Next Scheduled EDR Contact: N/A Data Release Frequency: Varies

EDR US Hist Cleaners: EDR Proprietary Historic Dry Cleaners - Cole

Date of Government Version: N/A

Date Data Arrived at EDR: N/A

Date Made Active in Reports: N/A

Last EDR Contact: N/A

Number of Days to Update: N/A Next Scheduled EDR Contact: N/A Data Release Frequency: Varies

EDR US Hist Auto Stat: EDR Proprietary Historic Gas Stations - Cole

Date of Government Version: N/A

Date Data Arrived at EDR: N/A

Date Made Active in Reports: N/A

Last EDR Contact: N/A

Number of Days to Update: N/A Next Scheduled EDR Contact: N/A Data Release Frequency: Varies

COUNTY RECORDS

ALAMEDA COUNTY:

Contaminated Sites

A listing of contaminated sites overseen by the Toxic Release Program (oil and groundwater contamination from chemical releases and spills) and the Leaking Underground Storage Tank Program (soil and ground water contamination from leaking petroleum USTs).

Date of Government Version: 04/15/2013 Date Data Arrived at EDR: 04/16/2013 Date Made Active in Reports: 05/16/2013

Number of Days to Update: 30

Source: Alameda County Environmental Health Services

Telephone: 510-567-6700 Last EDR Contact: 04/01/2013

Next Scheduled EDR Contact: 07/15/2013 Data Release Frequency: Semi-Annually

Underground Tanks

Underground storage tank sites located in Alameda county.

Date of Government Version: 04/15/2013 Date Data Arrived at EDR: 04/16/2013 Date Made Active in Reports: 05/16/2013

Number of Days to Update: 30

Source: Alameda County Environmental Health Services

Telephone: 510-567-6700 Last EDR Contact: 04/01/2013

Next Scheduled EDR Contact: 07/15/2013 Data Release Frequency: Semi-Annually

AMADOR COUNTY:

CUPA Facility List Cupa Facility List

> Date of Government Version: 03/13/2013 Date Data Arrived at EDR: 03/14/2013 Date Made Active in Reports: 04/04/2013

Number of Days to Update: 21

Source: Amador County Environmental Health

Telephone: 209-223-6439 Last EDR Contact: 06/10/2013

Next Scheduled EDR Contact: 09/23/2013 Data Release Frequency: Varies

BUTTE COUNTY:

CUPA Facility Listing
Cupa facility list.

Date of Government Version: 10/16/2012 Date Data Arrived at EDR: 10/17/2012 Date Made Active in Reports: 11/13/2012

Number of Days to Update: 27

Source: Public Health Department Telephone: 530-538-7149 Last EDR Contact: 04/26/2013

Next Scheduled EDR Contact: 04/29/2013 Data Release Frequency: Varies

CALVERAS COUNTY:

CUPA Facility Listing
Cupa Facility Listing

Date of Government Version: 04/16/2013 Date Data Arrived at EDR: 04/17/2013 Date Made Active in Reports: 05/16/2013

Number of Days to Update: 29

Source: Calveras County Environmental Health

Telephone: 209-754-6399 Last EDR Contact: 04/15/2013

Next Scheduled EDR Contact: 07/15/2013 Data Release Frequency: Quarterly

COLUSA COUNTY:

CUPA Facility List Cupa facility list.

> Date of Government Version: 01/04/2013 Date Data Arrived at EDR: 01/14/2013 Date Made Active in Reports: 03/01/2013

Number of Days to Update: 46

Source: Health & Human Services Telephone: 530-458-0396 Last EDR Contact: 05/28/2013

Next Scheduled EDR Contact: 08/26/2013 Data Release Frequency: Varies

CONTRA COSTA COUNTY:

Site List

List includes sites from the underground tank, hazardous waste generator and business plan/2185 programs.

Date of Government Version: 04/09/2013 Date Data Arrived at EDR: 04/10/2013 Date Made Active in Reports: 05/14/2013

Number of Days to Update: 34

Source: Contra Costa Health Services Department

Telephone: 925-646-2286 Last EDR Contact: 05/06/2013

Next Scheduled EDR Contact: 08/19/2013 Data Release Frequency: Semi-Annually

DEL NORTE COUNTY:

CUPA Facility List Cupa Facility list

> Date of Government Version: 01/09/2013 Date Data Arrived at EDR: 01/10/2013 Date Made Active in Reports: 02/25/2013

Number of Days to Update: 46

Source: Del Norte County Environmental Health Division

Telephone: 707-465-0426 Last EDR Contact: 05/06/2013

Next Scheduled EDR Contact: 08/19/2013

Data Release Frequency: Varies

EL DORADO COUNTY:

CUPA Facility List CUPA facility list.

> Date of Government Version: 02/27/2013 Date Data Arrived at EDR: 02/28/2013 Date Made Active in Reports: 03/25/2013

Number of Days to Update: 25

Source: El Dorado County Environmental Management Department

Telephone: 530-621-6623 Last EDR Contact: 05/06/2013

Next Scheduled EDR Contact: 08/19/2013

Data Release Frequency: Varies

FRESNO COUNTY:

CUPA Resources List

Certified Unified Program Agency. CUPA's are responsible for implementing a unified hazardous materials and hazardous waste management regulatory program. The agency provides oversight of businesses that deal with hazardous materials, operate underground storage tanks or aboveground storage tanks.

Date of Government Version: 03/31/2013 Date Data Arrived at EDR: 04/16/2013 Date Made Active in Reports: 05/16/2013

Number of Days to Update: 30

Source: Dept. of Community Health Telephone: 559-445-3271 Last EDR Contact: 04/15/2013

Next Scheduled EDR Contact: 07/29/2013 Data Release Frequency: Semi-Annually

HUMBOLDT COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 03/15/2013 Date Data Arrived at EDR: 03/19/2013 Date Made Active in Reports: 03/27/2013

Number of Days to Update: 8

Source: Humboldt County Environmental Health

Telephone: N/A

Last EDR Contact: 05/28/2013

Next Scheduled EDR Contact: 09/09/2013

Data Release Frequency: Varies

IMPERIAL COUNTY:

CUPA Facility List

Cupa facility list.

Date of Government Version: 05/01/2012 Date Data Arrived at EDR: 05/02/2012 Date Made Active in Reports: 06/11/2012

Number of Days to Update: 40

Source: San Diego Border Field Office

Telephone: 760-339-2777 Last EDR Contact: 04/29/2013

Next Scheduled EDR Contact: 08/12/2013 Data Release Frequency: Varies

INYO COUNTY:

CUPA Facility List
Cupa facility list.

Date of Government Version: 06/26/2012 Date Data Arrived at EDR: 06/27/2012 Date Made Active in Reports: 08/17/2012

Number of Days to Update: 51

Source: Inyo County Environmental Health Services

Telephone: 760-878-0238 Last EDR Contact: 05/28/2013

Next Scheduled EDR Contact: 09/09/2013

Data Release Frequency: Varies

KERN COUNTY:

Underground Storage Tank Sites & Tank Listing Kern County Sites and Tanks Listing.

Date of Government Version: 08/31/2010 Date Data Arrived at EDR: 09/01/2010 Date Made Active in Reports: 09/30/2010

Number of Days to Update: 29

Source: Kern County Environment Health Services Department

Telephone: 661-862-8700 Last EDR Contact: 05/10/2013

Next Scheduled EDR Contact: 08/26/2013 Data Release Frequency: Quarterly

KINGS COUNTY:

CUPA Facility List

A listing of sites included in the county?s Certified Unified Program Agency database. California?s Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 02/12/2013 Date Data Arrived at EDR: 02/13/2013 Date Made Active in Reports: 03/21/2013

Number of Days to Update: 36

Source: Kings County Department of Public Health

Telephone: 559-584-1411 Last EDR Contact: 06/10/2013

Next Scheduled EDR Contact: 09/09/2013 Data Release Frequency: Varies

LAKE COUNTY:

CUPA Facility List Cupa facility list

> Date of Government Version: 01/23/2013 Date Data Arrived at EDR: 01/25/2013 Date Made Active in Reports: 02/27/2013

Number of Days to Update: 33

Source: Lake County Environmental Health

Telephone: 707-263-1164 Last EDR Contact: 04/19/2013

Next Scheduled EDR Contact: 08/05/2013 Data Release Frequency: Varies

LOS ANGELES COUNTY:

San Gabriel Valley Areas of Concern

San Gabriel Valley areas where VOC contamination is at or above the MCL as designated by region 9 EPA office.

Date of Government Version: 03/30/2009 Date Data Arrived at EDR: 03/31/2009 Date Made Active in Reports: 10/23/2009

Number of Days to Update: 206

Source: EPA Region 9 Telephone: 415-972-3178 Last EDR Contact: 05/10/2013

Next Scheduled EDR Contact: 07/01/2013 Data Release Frequency: No Update Planned

HMS: Street Number List

Industrial Waste and Underground Storage Tank Sites.

Date of Government Version: 10/31/2012 Date Data Arrived at EDR: 12/28/2012 Date Made Active in Reports: 01/25/2013

Number of Days to Update: 28

Source: Department of Public Works

Telephone: 626-458-3517 Last EDR Contact: 04/15/2013

Next Scheduled EDR Contact: 07/29/2013 Data Release Frequency: Semi-Annually

List of Solid Waste Facilities

Solid Waste Facilities in Los Angeles County.

Date of Government Version: 04/24/2013 Date Data Arrived at EDR: 04/24/2013 Date Made Active in Reports: 05/17/2013

Number of Days to Update: 23

Source: La County Department of Public Works

Telephone: 818-458-5185 Last EDR Contact: 04/24/2013

Next Scheduled EDR Contact: 08/05/2013 Data Release Frequency: Varies

City of Los Angeles Landfills

Landfills owned and maintained by the City of Los Angeles.

Date of Government Version: 03/05/2009 Date Data Arrived at EDR: 03/10/2009 Date Made Active in Reports: 04/08/2009

Number of Days to Update: 29

Source: Engineering & Construction Division

Telephone: 213-473-7869 Last EDR Contact: 05/20/2013

Next Scheduled EDR Contact: 09/02/2013 Data Release Frequency: Varies

Site Mitigation List

Industrial sites that have had some sort of spill or complaint.

Date of Government Version: 01/30/2013 Date Data Arrived at EDR: 02/21/2013 Date Made Active in Reports: 03/25/2013

Number of Days to Update: 32

Source: Community Health Services Telephone: 323-890-7806 Last EDR Contact: 04/19/2013

Next Scheduled EDR Contact: 08/05/2013 Data Release Frequency: Annually

City of El Segundo Underground Storage Tank

Underground storage tank sites located in El Segundo city.

Date of Government Version: 04/22/2013 Date Data Arrived at EDR: 04/29/2013 Date Made Active in Reports: 05/17/2013

Number of Days to Update: 18

Source: City of El Segundo Fire Department

Telephone: 310-524-2236 Last EDR Contact: 04/19/2013

Next Scheduled EDR Contact: 08/05/2013 Data Release Frequency: Semi-Annually

City of Long Beach Underground Storage Tank

Underground storage tank sites located in the city of Long Beach.

Date of Government Version: 03/28/2003 Date Data Arrived at EDR: 10/23/2003 Date Made Active in Reports: 11/26/2003

Number of Days to Update: 34

Source: City of Long Beach Fire Department

Telephone: 562-570-2563 Last EDR Contact: 04/26/2013

Next Scheduled EDR Contact: 08/12/2013 Data Release Frequency: Annually

City of Torrance Underground Storage Tank

Underground storage tank sites located in the city of Torrance.

Date of Government Version: 04/15/2013 Date Data Arrived at EDR: 04/16/2013 Date Made Active in Reports: 05/17/2013

Number of Days to Update: 31

Source: City of Torrance Fire Department

Telephone: 310-618-2973 Last EDR Contact: 04/15/2013

Next Scheduled EDR Contact: 07/29/2013 Data Release Frequency: Semi-Annually

MADERA COUNTY:

CUPA Facility List

A listing of sites included in the county?s Certified Unified Program Agency database. California?s Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 04/15/2013 Date Data Arrived at EDR: 04/16/2013 Date Made Active in Reports: 05/17/2013

Number of Days to Update: 31

Source: Madera County Environmental Health

Telephone: 559-675-7823 Last EDR Contact: 05/28/2013

Next Scheduled EDR Contact: 09/09/2013 Data Release Frequency: Varies

MARIN COUNTY:

Underground Storage Tank Sites

Currently permitted USTs in Marin County.

Date of Government Version: 11/26/2012 Date Data Arrived at EDR: 11/28/2012 Date Made Active in Reports: 01/21/2013

Number of Days to Update: 54

Source: Public Works Department Waste Management

Telephone: 415-499-6647 Last EDR Contact: 04/08/2013

Next Scheduled EDR Contact: 07/22/2013 Data Release Frequency: Semi-Annually

MERCED COUNTY:

CUPA Facility List

CUPA facility list.

Date of Government Version: 02/25/2013 Date Data Arrived at EDR: 02/26/2013 Date Made Active in Reports: 03/25/2013

Number of Days to Update: 27

Source: Merced County Environmental Health

Telephone: 209-381-1094 Last EDR Contact: 02/25/2013

Next Scheduled EDR Contact: 09/09/2013 Data Release Frequency: Varies

MONO COUNTY:

CUPA Facility List CUPA Facility List

> Date of Government Version: 03/04/2013 Date Data Arrived at EDR: 03/08/2013 Date Made Active in Reports: 03/25/2013

Number of Days to Update: 17

Source: Mono County Health Department

Telephone: 760-932-5580 Last EDR Contact: 06/03/2013

Next Scheduled EDR Contact: 09/16/2013 Data Release Frequency: Varies

MONTEREY COUNTY:

CUPA Facility Listing

CUPA Program listing from the Environmental Health Division.

Date of Government Version: 03/14/2013 Date Data Arrived at EDR: 03/15/2013 Date Made Active in Reports: 03/27/2013

Number of Days to Update: 12

Source: Monterey County Health Department

Telephone: 831-796-1297 Last EDR Contact: 05/28/2013

Next Scheduled EDR Contact: 09/09/2013 Data Release Frequency: Varies

NAPA COUNTY:

Sites With Reported Contamination

A listing of leaking underground storage tank sites located in Napa county.

Date of Government Version: 12/05/2011 Date Data Arrived at EDR: 12/06/2011 Date Made Active in Reports: 02/07/2012

Number of Days to Update: 63

Source: Napa County Department of Environmental Management

Telephone: 707-253-4269 Last EDR Contact: 06/03/2013

Next Scheduled EDR Contact: 09/16/2013 Data Release Frequency: No Update Planned

Closed and Operating Underground Storage Tank Sites

Underground storage tank sites located in Napa county.

Date of Government Version: 01/15/2008 Date Data Arrived at EDR: 01/16/2008 Date Made Active in Reports: 02/08/2008

Number of Days to Update: 23

Source: Napa County Department of Environmental Management

Telephone: 707-253-4269 Last EDR Contact: 06/03/2013

Next Scheduled EDR Contact: 09/16/2013 Data Release Frequency: No Update Planned

NEVADA COUNTY:

CUPA Facility List

CUPA facility list.

Date of Government Version: 03/08/2013 Date Data Arrived at EDR: 03/08/2013 Date Made Active in Reports: 03/25/2013

Number of Days to Update: 17

Source: Community Development Agency

Telephone: 530-265-1467 Last EDR Contact: 05/17/2013

Next Scheduled EDR Contact: 08/19/2013 Data Release Frequency: Varies

ORANGE COUNTY:

List of Industrial Site Cleanups

Petroleum and non-petroleum spills.

Date of Government Version: 02/04/2013 Date Data Arrived at EDR: 02/26/2013 Date Made Active in Reports: 03/20/2013

Number of Days to Update: 22

Source: Health Care Agency Telephone: 714-834-3446 Last EDR Contact: 05/10/2013

Next Scheduled EDR Contact: 08/26/2013 Data Release Frequency: Annually

List of Underground Storage Tank Cleanups

Orange County Underground Storage Tank Cleanups (LUST).

Date of Government Version: 02/04/2013 Date Data Arrived at EDR: 02/19/2013 Date Made Active in Reports: 03/20/2013

Number of Days to Update: 29

Source: Health Care Agency Telephone: 714-834-3446 Last EDR Contact: 05/10/2013

Next Scheduled EDR Contact: 08/26/2013 Data Release Frequency: Quarterly

List of Underground Storage Tank Facilities

Orange County Underground Storage Tank Facilities (UST).

Date of Government Version: 02/04/2013 Date Data Arrived at EDR: 02/18/2013 Date Made Active in Reports: 03/27/2013

Number of Days to Update: 37

Source: Health Care Agency Telephone: 714-834-3446 Last EDR Contact: 05/10/2013

Next Scheduled EDR Contact: 08/26/2013 Data Release Frequency: Quarterly

PLACER COUNTY:

Master List of Facilities

List includes aboveground tanks, underground tanks and cleanup sites.

Date of Government Version: 03/12/2013 Date Data Arrived at EDR: 03/13/2013 Date Made Active in Reports: 03/27/2013

Number of Days to Update: 14

Source: Placer County Health and Human Services

Telephone: 530-745-2363 Last EDR Contact: 06/10/2013

Next Scheduled EDR Contact: 09/23/2013 Data Release Frequency: Semi-Annually

RIVERSIDE COUNTY:

Listing of Underground Tank Cleanup Sites

Riverside County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 04/23/2013 Date Data Arrived at EDR: 04/24/2013 Date Made Active in Reports: 05/17/2013

Number of Days to Update: 23

Source: Department of Environmental Health

Telephone: 951-358-5055 Last EDR Contact: 03/25/2013

Next Scheduled EDR Contact: 07/08/2013 Data Release Frequency: Quarterly

Underground Storage Tank Tank List

Underground storage tank sites located in Riverside county.

Date of Government Version: 04/23/2013 Date Data Arrived at EDR: 04/24/2013 Date Made Active in Reports: 05/16/2013

Number of Days to Update: 22

Source: Department of Environmental Health

Telephone: 951-358-5055 Last EDR Contact: 03/25/2013

Next Scheduled EDR Contact: 07/08/2013
Data Release Frequency: Quarterly

SACRAMENTO COUNTY:

Toxic Site Clean-Up List

List of sites where unauthorized releases of potentially hazardous materials have occurred.

Date of Government Version: 02/04/2013 Date Data Arrived at EDR: 04/11/2013 Date Made Active in Reports: 05/14/2013

Number of Days to Update: 33

Source: Sacramento County Environmental Management

Telephone: 916-875-8406 Last EDR Contact: 04/08/2013

Next Scheduled EDR Contact: 07/22/2013 Data Release Frequency: Quarterly

Master Hazardous Materials Facility List

Any business that has hazardous materials on site - hazardous material storage sites, underground storage tanks, waste generators.

Date of Government Version: 02/04/2013 Date Data Arrived at EDR: 04/12/2013 Date Made Active in Reports: 05/16/2013

Number of Days to Update: 34

Source: Sacramento County Environmental Management

Telephone: 916-875-8406 Last EDR Contact: 04/08/2013

Next Scheduled EDR Contact: 07/22/2013 Data Release Frequency: Quarterly

SAN BERNARDINO COUNTY:

Hazardous Material Permits

This listing includes underground storage tanks, medical waste handlers/generators, hazardous materials handlers, hazardous waste generators, and waste oil generators/handlers.

Date of Government Version: 03/04/2013 Date Data Arrived at EDR: 03/05/2013 Date Made Active in Reports: 03/25/2013

Number of Days to Update: 20

Source: San Bernardino County Fire Department Hazardous Materials Division

Telephone: 909-387-3041 Last EDR Contact: 05/13/2013

Next Scheduled EDR Contact: 08/26/2013 Data Release Frequency: Quarterly

SAN DIEGO COUNTY:

Hazardous Materials Management Division Database

The database includes: HE58 - This report contains the business name, site address, business phone number, establishment 'H' permit number, type of permit, and the business status. HE17 - In addition to providing the same information provided in the HE58 listing, HE17 provides inspection dates, violations received by the establishment, hazardous waste generated, the quantity, method of storage, treatment/disposal of waste and the hauler, and information on underground storage tanks. Unauthorized Release List - Includes a summary of environmental contamination cases in San Diego County (underground tank cases, non-tank cases, groundwater contamination, and soil contamination are included.)

Date of Government Version: 08/17/2012 Date Data Arrived at EDR: 08/20/2012 Date Made Active in Reports: 10/03/2012

Number of Days to Update: 44

Source: Hazardous Materials Management Division

Telephone: 619-338-2268 Last EDR Contact: 06/10/2013

Next Scheduled EDR Contact: 09/23/2013 Data Release Frequency: Quarterly

Solid Waste Facilities

San Diego County Solid Waste Facilities.

Date of Government Version: 10/31/2012 Date Data Arrived at EDR: 11/06/2012 Date Made Active in Reports: 11/30/2012

Number of Days to Update: 24

Source: Department of Health Services

Telephone: 619-338-2209 Last EDR Contact: 04/26/2013

Next Scheduled EDR Contact: 08/12/2013 Data Release Frequency: Varies

Environmental Case Listing

The listing contains all underground tank release cases and projects pertaining to properties contaminated with hazardous substances that are actively under review by the Site Assessment and Mitigation Program.

Date of Government Version: 03/23/2010 Date Data Arrived at EDR: 06/15/2010 Date Made Active in Reports: 07/09/2010

Number of Days to Update: 24

Source: San Diego County Department of Environmental Health

Telephone: 619-338-2371 Last EDR Contact: 06/10/2013

Next Scheduled EDR Contact: 09/23/2013 Data Release Frequency: No Update Planned

SAN FRANCISCO COUNTY:

Local Oversite Facilities

A listing of leaking underground storage tank sites located in San Francisco county.

Date of Government Version: 09/19/2008 Date Data Arrived at EDR: 09/19/2008 Date Made Active in Reports: 09/29/2008

Number of Days to Update: 10

Source: Department Of Public Health San Francisco County

Telephone: 415-252-3920 Last EDR Contact: 05/10/2013

Next Scheduled EDR Contact: 08/26/2013 Data Release Frequency: Quarterly

Underground Storage Tank Information

Underground storage tank sites located in San Francisco county.

Date of Government Version: 11/29/2010 Date Data Arrived at EDR: 03/10/2011 Date Made Active in Reports: 03/15/2011

Number of Days to Update: 5

Source: Department of Public Health

Telephone: 415-252-3920 Last EDR Contact: 05/10/2013

Next Scheduled EDR Contact: 08/26/2013 Data Release Frequency: Quarterly

SAN JOAQUIN COUNTY:

San Joaquin Co. UST

A listing of underground storage tank locations in San Joaquin county.

Date of Government Version: 03/25/2013 Date Data Arrived at EDR: 03/25/2013 Date Made Active in Reports: 04/18/2013

Number of Days to Update: 24

Source: Environmental Health Department

Telephone: N/A

Last EDR Contact: 03/25/2013

Next Scheduled EDR Contact: 07/08/2013 Data Release Frequency: Semi-Annually

SAN LUIS OBISPO COUNTY:

CUPA Facility List

Cupa Facility List.

Date of Government Version: 02/26/2013 Date Data Arrived at EDR: 02/26/2013 Date Made Active in Reports: 03/25/2013

Number of Days to Update: 27

Source: San Luis Obispo County Public Health Department

Telephone: 805-781-5596 Last EDR Contact: 05/28/2013

Next Scheduled EDR Contact: 09/09/2013

Data Release Frequency: Varies

SAN MATEO COUNTY:

Business Inventory

List includes Hazardous Materials Business Plan, hazardous waste generators, and underground storage tanks.

Date of Government Version: 04/09/2013 Date Data Arrived at EDR: 04/10/2013 Date Made Active in Reports: 05/14/2013

Number of Days to Update: 34

Source: San Mateo County Environmental Health Services Division

Telephone: 650-363-1921 Last EDR Contact: 03/18/2013

Next Scheduled EDR Contact: 07/01/2013 Data Release Frequency: Annually

Fuel Leak List

A listing of leaking underground storage tank sites located in San Mateo county.

Date of Government Version: 03/18/2013 Date Data Arrived at EDR: 03/19/2013 Date Made Active in Reports: 03/27/2013

Number of Days to Update: 8

Source: San Mateo County Environmental Health Services Division

Telephone: 650-363-1921 Last EDR Contact: 03/18/2013

Next Scheduled EDR Contact: 07/01/2013 Data Release Frequency: Semi-Annually

SANTA BARBARA COUNTY:

CUPA Facility Listing

CUPA Program Listing from the Environmental Health Services division.

Date of Government Version: 09/08/2011 Date Data Arrived at EDR: 09/09/2011 Date Made Active in Reports: 10/07/2011

Number of Days to Update: 28

Source: Santa Barbara County Public Health Department

Telephone: 805-686-8167 Last EDR Contact: 05/20/2013

Next Scheduled EDR Contact: 06/10/2013

Data Release Frequency: Varies

SANTA CLARA COUNTY:

Cupa Facility List

Cupa facility list

Date of Government Version: 03/04/2013 Date Data Arrived at EDR: 03/05/2013 Date Made Active in Reports: 03/25/2013

Number of Days to Update: 20

Source: Department of Environmental Health

Telephone: 408-918-1973

Last EDR Contact: 06/03/2013

Next Scheduled EDR Contact: 09/16/2013

Data Release Frequency: Varies

HIST LUST - Fuel Leak Site Activity Report

A listing of open and closed leaking underground storage tanks. This listing is no longer updated by the county.

Leaking underground storage tanks are now handled by the Department of Environmental Health.

Date of Government Version: 03/29/2005 Date Data Arrived at EDR: 03/30/2005 Date Made Active in Reports: 04/21/2005

Number of Days to Update: 22

Source: Santa Clara Valley Water District

Telephone: 408-265-2600 Last EDR Contact: 03/23/2009

Next Scheduled EDR Contact: 06/22/2009 Data Release Frequency: No Update Planned

LOP Listing

A listing of leaking underground storage tanks located in Santa Clara county.

Date of Government Version: 03/04/2013 Date Data Arrived at EDR: 03/06/2013 Date Made Active in Reports: 03/25/2013

Number of Days to Update: 19

Source: Department of Environmental Health

Telephone: 408-918-3417 Last EDR Contact: 06/03/2013

Next Scheduled EDR Contact: 09/16/2013 Data Release Frequency: Annually

Hazardous Material Facilities

Hazardous material facilities, including underground storage tank sites.

Date of Government Version: 02/12/2013 Date Data Arrived at EDR: 02/14/2013 Date Made Active in Reports: 03/20/2013

Number of Days to Update: 34

Source: City of San Jose Fire Department

Telephone: 408-535-7694 Last EDR Contact: 05/13/2013

Next Scheduled EDR Contact: 08/26/2013 Data Release Frequency: Annually

SANTA CRUZ COUNTY:

CUPA Facility List

CUPA facility listing.

Date of Government Version: 02/26/2013 Date Data Arrived at EDR: 02/26/2013 Date Made Active in Reports: 03/20/2013

Number of Days to Update: 22

Source: Santa Cruz County Environmental Health

Telephone: 831-464-2761 Last EDR Contact: 05/28/2013

Next Scheduled EDR Contact: 09/09/2013

Data Release Frequency: Varies

SHASTA COUNTY:

CUPA Facility List

Cupa Facility List.

Date of Government Version: 03/15/2013 Date Data Arrived at EDR: 03/15/2013 Date Made Active in Reports: 03/27/2013

Number of Days to Update: 12

Source: Shasta County Department of Resource Management

Telephone: 530-225-5789 Last EDR Contact: 05/28/2013

Next Scheduled EDR Contact: 09/09/2013 Data Release Frequency: Varies

SOLANO COUNTY:

Leaking Underground Storage Tanks

A listing of leaking underground storage tank sites located in Solano county.

Date of Government Version: 03/20/2013 Date Data Arrived at EDR: 03/28/2013 Date Made Active in Reports: 05/14/2013

Number of Days to Update: 47

Source: Solano County Department of Environmental Management

Telephone: 707-784-6770 Last EDR Contact: 03/18/2013

Next Scheduled EDR Contact: 07/01/2013 Data Release Frequency: Quarterly

Underground Storage Tanks

Underground storage tank sites located in Solano county.

Date of Government Version: 03/20/2013 Date Data Arrived at EDR: 03/28/2013 Date Made Active in Reports: 05/13/2013

Number of Days to Update: 46

Source: Solano County Department of Environmental Management

Telephone: 707-784-6770 Last EDR Contact: 03/18/2013

Next Scheduled EDR Contact: 07/01/2013 Data Release Frequency: Quarterly

SONOMA COUNTY:

Cupa Facility List

Cupa Facility list

Date of Government Version: 04/01/2013 Date Data Arrived at EDR: 04/03/2013 Date Made Active in Reports: 05/14/2013

Number of Days to Update: 41

Source: County of Sonoma Fire & Emergency Services Department

Telephone: 707-565-1174 Last EDR Contact: 04/01/2013

Next Scheduled EDR Contact: 07/15/2013 Data Release Frequency: Varies

Leaking Underground Storage Tank Sites

A listing of leaking underground storage tank sites located in Sonoma county.

Date of Government Version: 04/02/2013 Date Data Arrived at EDR: 04/03/2013 Date Made Active in Reports: 05/14/2013

Number of Days to Update: 41

Source: Department of Health Services

Telephone: 707-565-6565 Last EDR Contact: 04/01/2013

Next Scheduled EDR Contact: 07/15/2013 Data Release Frequency: Quarterly

SUTTER COUNTY:

Underground Storage Tanks

Underground storage tank sites located in Sutter county.

Date of Government Version: 03/13/2013 Date Data Arrived at EDR: 03/14/2013 Date Made Active in Reports: 03/27/2013

Number of Days to Update: 13

Source: Sutter County Department of Agriculture

Telephone: 530-822-7500 Last EDR Contact: 06/10/2013

Next Scheduled EDR Contact: 09/23/2013 Data Release Frequency: Semi-Annually

TUOLUMNE COUNTY:

CUPA Facility List

Cupa facility list

Date of Government Version: 01/14/2013 Date Data Arrived at EDR: 01/16/2013 Date Made Active in Reports: 02/27/2013

Number of Days to Update: 42

Source: Divison of Environmental Health

Telephone: 209-533-5633 Last EDR Contact: 05/15/2013

Next Scheduled EDR Contact: 07/29/2013 Data Release Frequency: Varies

VENTURA COUNTY:

Business Plan, Hazardous Waste Producers, and Operating Underground Tanks

The BWT list indicates by site address whether the Environmental Health Division has Business Plan (B), Waste Producer (W), and/or Underground Tank (T) information.

Date of Government Version: 03/30/2012 Date Data Arrived at EDR: 05/25/2012 Date Made Active in Reports: 07/06/2012

Number of Days to Update: 42

Source: Ventura County Environmental Health Division

Telephone: 805-654-2813 Last EDR Contact: 05/20/2013

Next Scheduled EDR Contact: 09/02/2013 Data Release Frequency: Quarterly

Inventory of Illegal Abandoned and Inactive Sites

Ventura County Inventory of Closed, Illegal Abandoned, and Inactive Sites.

Date of Government Version: 12/01/2011 Date Data Arrived at EDR: 12/01/2011 Date Made Active in Reports: 01/19/2012

Number of Days to Update: 49

Source: Environmental Health Division

Telephone: 805-654-2813 Last EDR Contact: 04/08/2013

Next Scheduled EDR Contact: 07/22/2013 Data Release Frequency: Annually

Listing of Underground Tank Cleanup Sites

Ventura County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 05/29/2008 Date Data Arrived at EDR: 06/24/2008 Date Made Active in Reports: 07/31/2008

Number of Days to Update: 37

Source: Environmental Health Division

Telephone: 805-654-2813 Last EDR Contact: 02/18/2013

Next Scheduled EDR Contact: 06/03/2013 Data Release Frequency: Quarterly

Medical Waste Program List

To protect public health and safety and the environment from potential exposure to disease causing agents, the Environmental Health Division Medical Waste Program regulates the generation, handling, storage, treatment and disposal of medical waste throughout the County.

Date of Government Version: 01/28/2013 Date Data Arrived at EDR: 02/01/2013 Date Made Active in Reports: 03/20/2013

Number of Days to Update: 47

Source: Ventura County Resource Management Agency

Telephone: 805-654-2813 Last EDR Contact: 01/29/2013

Next Scheduled EDR Contact: 05/13/2013 Data Release Frequency: Quarterly

Underground Tank Closed Sites List

Ventura County Operating Underground Storage Tank Sites (UST)/Underground Tank Closed Sites List.

Date of Government Version: 03/01/2013 Date Data Arrived at EDR: 03/28/2013 Date Made Active in Reports: 05/13/2013

Number of Days to Update: 46

Source: Environmental Health Division Telephone: 805-654-2813 Last EDR Contact: 03/18/2013

Next Scheduled EDR Contact: 07/01/2013 Data Release Frequency: Quarterly

YOLO COUNTY:

Underground Storage Tank Comprehensive Facility Report
Underground storage tank sites located in Yolo county.

Date of Government Version: 03/25/2013 Date Data Arrived at EDR: 03/29/2013 Date Made Active in Reports: 05/13/2013

Number of Days to Update: 45

Source: Yolo County Department of Health

Telephone: 530-666-8646 Last EDR Contact: 03/25/2013

Next Scheduled EDR Contact: 07/08/2013 Data Release Frequency: Annually

YUBA COUNTY:

CUPA Facility List

CUPA facility listing for Yuba County.

Date of Government Version: 03/05/2013 Date Data Arrived at EDR: 03/06/2013 Date Made Active in Reports: 03/25/2013

Number of Days to Update: 19

Source: Yuba County Environmental Health Department

Telephone: 530-749-7523 Last EDR Contact: 05/20/2013

Next Scheduled EDR Contact: 08/19/2013 Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data

Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 02/18/2013 Date Data Arrived at EDR: 02/18/2013 Date Made Active in Reports: 03/21/2013

Number of Days to Update: 31

Source: Department of Energy & Environmental Protection

Telephone: 860-424-3375 Last EDR Contact: 05/21/2013

Next Scheduled EDR Contact: 09/02/2013
Data Release Frequency: Annually

NJ MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2011 Date Data Arrived at EDR: 07/19/2012 Date Made Active in Reports: 08/28/2012

Number of Days to Update: 40

Source: Department of Environmental Protection

Telephone: N/A

Last EDR Contact: 04/19/2013

Next Scheduled EDR Contact: 07/29/2013 Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data

Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 02/01/2013 Date Data Arrived at EDR: 02/07/2013 Date Made Active in Reports: 03/15/2013

Number of Days to Update: 36

Source: Department of Environmental Conservation

Telephone: 518-402-8651 Last EDR Contact: 05/09/2013

Next Scheduled EDR Contact: 08/19/2013 Data Release Frequency: Annually

PA MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2011 Date Data Arrived at EDR: 07/23/2012 Date Made Active in Reports: 09/18/2012

Number of Days to Update: 57

Source: Department of Environmental Protection

Telephone: 717-783-8990 Last EDR Contact: 04/23/2013

Next Scheduled EDR Contact: 08/05/2013 Data Release Frequency: Annually

RI MANIFEST: Manifest information

Hazardous waste manifest information

Date of Government Version: 12/31/2011 Date Data Arrived at EDR: 06/22/2012 Date Made Active in Reports: 07/31/2012

Number of Days to Update: 39

Source: Department of Environmental Management

Telephone: 401-222-2797 Last EDR Contact: 05/28/2013

Next Scheduled EDR Contact: 09/09/2013 Data Release Frequency: Annually

WI MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2011 Date Data Arrived at EDR: 07/19/2012 Date Made Active in Reports: 09/27/2012

Number of Days to Update: 70

Source: Department of Natural Resources

Telephone: N/A

Last EDR Contact: 03/18/2013

Next Scheduled EDR Contact: 07/01/2013 Data Release Frequency: Annually

Oil/Gas Pipelines: This data was obtained by EDR from the USGS in 1994. It is referred to by USGS as GeoData Digital Line Graphs from 1:100,000-Scale Maps. It was extracted from the transportation category including some oil, but primarily gas pipelines.

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:

Source: American Hospital Association, Inc.

Telephone: 312-280-5991

The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing

Source: Centers for Medicare & Medicaid Services

Telephone: 410-786-3000

A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services,

a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes

Source: National Institutes of Health

Telephone: 301-594-6248

Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools

Source: National Center for Education Statistics

Telephone: 202-502-7300

The National Center for Education Statistics' primary database on elementary

and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are

comparable across all states.

Private Schools

Source: National Center for Education Statistics

Telephone: 202-502-7300

The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Licensed Facilities Source: Department of Social Services

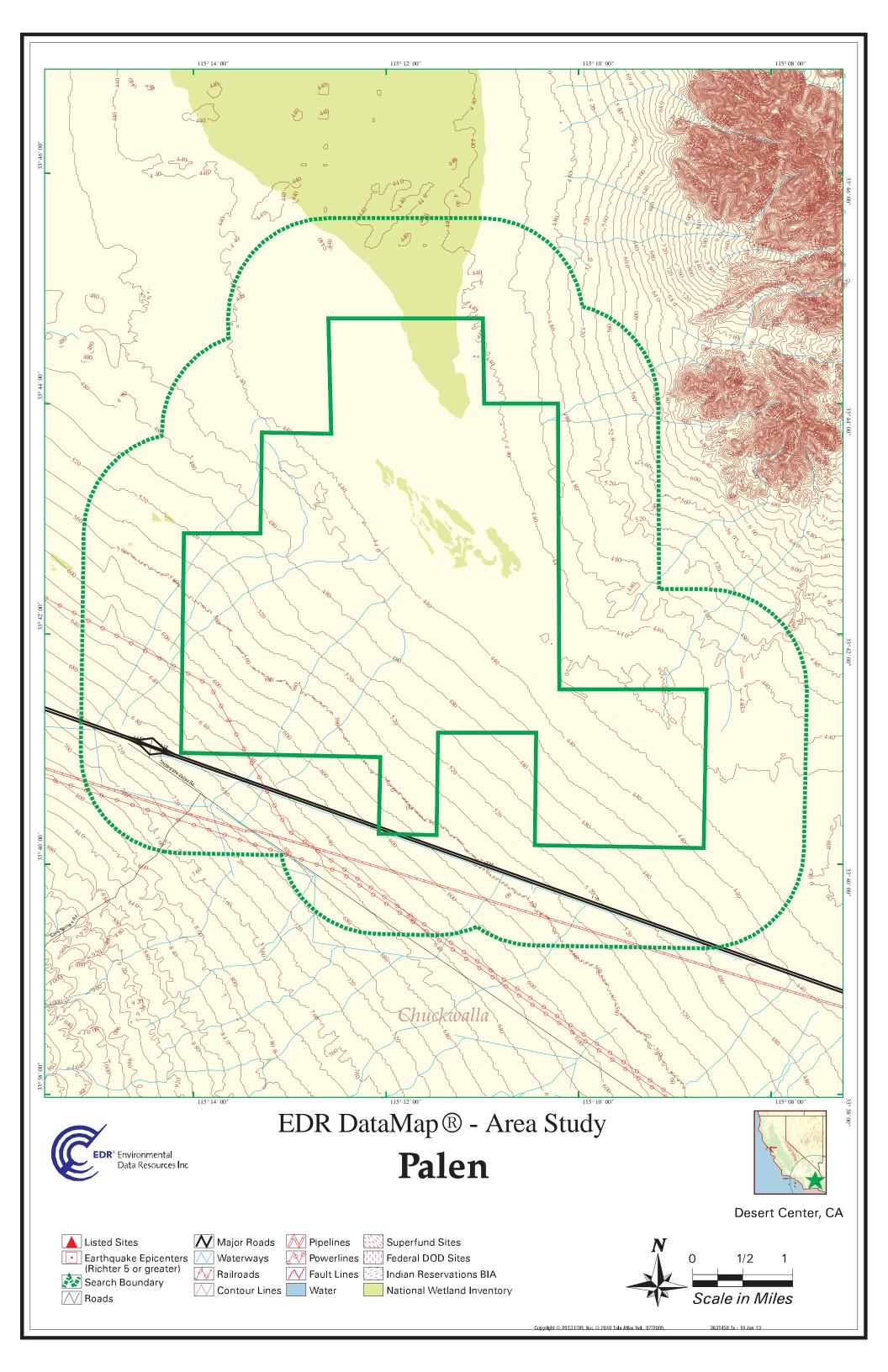
Telephone: 916-657-4041

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 2003 & 2011 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 and 2005 from the U.S. Fish and Wildlife Service.

STREET AND ADDRESS INFORMATION

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ATTACHMENT DR 71-1 CONSTRUCTION WASTE TABLE

Construction Phase

During construction, the primary waste generated will be solid nonhazardous waste. However, some nonhazardous liquid waste and hazardous waste (solid and liquid) will also be generated. The types of waste and their estimated quantities are described below and summarized in Table DR 71-1 below.

TABLE DR 71-1
Potential Wastes Generated during the Construction Phase at the PSEGS Facility

	Estimated				
Waste	Origin	Composition	Quantity	Classification	Disposal
Scrap wood, steel, glass, plastic, paper, calcium silicate insulation, mineral wool insulation	Construction of facility	Normal refuse	180 tons	Non- hazardous	Recycle and/or dispose of in a Class II or III landfill
Scrap Metals	Construction of facility	Parts, containers	1 ton per month during construction	Non- hazardous	Recycle and/or dispose of in a Class III landfill
Unused concrete	Construction (power tower and building foundations)	Rock, sand, cement	Less than 1,000 pounds per month during construction	Non hazardous (dry)	Recycle or dispose of in a Class III landfill.
Empty hazardous material containers	Construction of facility	Drums, containers, totes	100 containers*	Hazardous and non- hazardous solids	Containers < 5 gallons will be disposed as normal refuse. Containers > 5 gallons will be returned to vendors for recycling or reconditioning
Spent welding materials	Construction of facility	Solid	1 ton	Hazardous	Disposal at a Class I landfill
Waste oil filters	Construction equipment and vehicles	Solids	200 pounds per month	Non- hazardous	Recycle at a permitted treatment, storage, and disposal facility (TSDF)
Used and waste lube oil	ST lube oil flushes and equipment vehicles	Hydrocarbons	12,000 gallons (life of project construction)	Hazardous	Recycle at a permitted TSDF
Oily rags, oil sorbent excluding lube oil flushes	Cleanup of small spills	Hydrocarbons	3,000 pounds during construction	Hazardous	Recycle or dispose at a permitted TSDF
Solvents, paint, adhesives	Construction of facility	Varies	180 pounds per month	Hazardous	Recycle at a permitted TSDF
Spent lead-acid batteries	Equipment and Trucks	Heavy metals	10 batteries per year	Hazardous	Store no more than 10 batteries (up to 1-year) - Recycle offsite

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TABLE DR 71-1
Potential Wastes Generated during the Construction Phase at the PSEGS Facility

		Generated during the	Estimated		
Waste	Origin	Composition	Quantity	Classification	Disposal
Spent alkaline batteries	Equipment	Metals	50 batteries per month	Universal Waste solids	Recycle or dispose offsite at a Universal Waste Destination Facility
Steam turbine cleaning waste	Pre-boiler piping	Corrosive cleaning chemicals	200 gallons before plant startup	Hazardous or non-hazardous liquid	Dispose at a permitted TSDF
Sanitary waste	Portable toilet holding tanks	Sewage sludge	Approx. 200 gallons per day	Non- Hazardous Liquid	Remove by contracted sanitary service
Fluorescent, mercury vapor lamps	Lighting	Metals and polychlorinated biphenyls (PCBs)	100 pounds per year	Universal Waste solids	Recycle or dispose offsite at a Universal Waste Destination Facility
Passivating and chemical cleaning fluid waste	Pipe cleaning and flushing	Varies	200,000 to 400,000 gallons (life of project construction)	Hazardous or non-hazardous liquid	Sample and characterize—if clean (meets regulatory standards), discharge to the surrounding area or use for dust control; otherwise, manage appropriately offsite
Hydrotest water	Testing equipment and piping integrity	Water	400,000 gallons (life of project construction)	Hazardous or non-hazardous liquid	Sample and characterize—if clean, (meets regulatory standards) discharge to the surrounding area or use for dust control; otherwise, manage appropriately offsite (see Section 5.15)

^{*}Containers include < 5-gallon containers and 55-gallon drums or totes

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ATTACHMENT DR 72-1 OPERATIONS WASTE TABLE

Operation Phase

During PSEGS operation, the primary waste generated will be nonhazardous solid waste. However, varying quantities of both solid and liquid hazardous waste will also be generated periodically. The types of waste and their estimated quantities are discussed below.

Nonhazardous Solid Waste

The majority of nonhazardous waste will be condensate polishing vessels and deionization trailers from the onsite water treatment unit. PSEGS will also produce maintenance and generating facility wastes, typical of power generation operations. These will include rags, broken and rusted metal and machine parts, defective or broken electrical materials, empty containers, the typical refuse generated by workers and small office operations, and other miscellaneous solid wastes. The quantity generated is estimated to be about 235 tons per year excluding sewer sludge. Large metal parts will be recycled.

Hazardous Waste

Hazardous waste generated at the site will include waste lubricating oil, used oil filters, and chemical cleaning wastes. They will consist of alkaline and acidic cleaning solutions used during chemical cleaning of the boiler system turbine. These wastes generally contain high concentrations of heavy metals and will be collected for offsite disposal.

Nonhazardous and hazardous wastes that potentially would be generated at the facility are summarized in Table DR 72-1.

TABLE DR 72-1
Potential Wastes Generated during PSEGS Operation

			Estimated		
Waste	Origin	Composition	Quantity	Classification	Disposal
Lubricating oil	Small leaks and spills from the steam turbine lubricating oil system and routine maintenance of the steam turbine	Hydrocarbons	200 gallons per steam turbine, or 600 gallons per maintenance event	Hazardous	Recycled by certified oil recycler
Lubricating oil filters	Steam turbine lubricating oil system	Paper, metal, and hydrocarbons	1,500 pounds per year	Hazardous	Recycled by certified oil recycler
Solvents, paint, adhesives	Operation of facility	Varies	180 pounds per month	Hazardous	Recycle at a permitted TSDF
Deionization Trailer unit	Water Treatment Process	Metal and resins	Trailers will be changed out every 2 weeks	Non- Hazardous	Recycled by water treatment manufacturer
Condensate polishing vessels	Water Treatment Process	Metal and resins	Vessels will be changed out every 2 weeks	Non- Hazardous	Recycled by water treatment manufacturer

TABLE DR 72-1
Potential Wastes Generated during PSEGS Operation

Waste	Origin	Composition	Estimated Quantity	Classification	Disposal
Oily rags	Maintenance, wipe down of equipment, etc.	Hydrocarbons, cloth	900 pounds per year (~800 rags per year)	Hazardous	Recycled by certified oil recycler
Oil sorbents	Cleanup of small spills	Hydrocarbons	600 pounds per year	Hazardous	Recycled or disposed of by certified oil recycler
Operating Area Wash Down	Evaporator System concentrate derived from plant oily wash down water (wash down is first treated by O/W separator)	Detergents, Soluble oil, suspended solids	679 gallons per day for each power Station/field (combined total of 1,358 gallons/day)	Non- Hazardous	Transported off- site for disposal by certified solid waste treatment facility
Onsite sanitary sewage treatment system	Sanitary wastewater will be discharged to an onsite septic tank and overflow into an underground leach field	Sanitary wastewater	700 gallons per day for each power station/field	Non- Hazardous	Contents of septic tank will be removed by sanitary hauler as needed

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BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION OF THE STATE OF CALIFORNIA

1516 NINTH STREET, SACRAMENTO, CA 95814 1-800-822-6228 – www.energy.ca.gov

PALEN SOLAR ELECTRIC GENERATING SYSTEM AMENDMENT

Docket No. 09-AFC-07C PROOF OF SERVICE (Revised 05/23/2013)

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After docketing, the Docket Unit will provide a copy to the persons listed below. Do not send copies of documents to these persons unless specifically directed to do so.

KAREN DOUGLAS
Commissioner and Presiding Member

DAVID HOCHSCHILD Commissioner and Associate Member

Kenneth Celli Hearing Adviser

Galen Lemei Adviser to Presiding Member

Jennifer Nelson Adviser to Presiding Member

Gabriel D. Taylor Adviser to Associate Member

Eileen Allen Commissioners' Technical Adviser for Facility Siting

DECLARATION OF SERVICE

I, Marie Fleming, declare that on June 14, 2013, I served and filed copies of the attached PALEN SOLAR HOLDINGS, LLC'S RESPONSE TO CEC STAFF DATA REQUEST SET 3 (40-72), dated June 14, 2013. This document is accompanied by the most recent Proof of Service, which I copied from the web page for this project at: http://www.energy.ca.gov/sitingcases/palen/compliance/.

The document has been sent to the other persons on the Service List above in the following manner:

THO GOO	Manierit has been sent to the other persons on the service List above in the following mainten.
(C <i>heck</i>	one)
For ser	vice to all other parties and filing with the Docket Unit at the Energy Commission:
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	e under penalty of perjury under the laws of the State of California that the foregoing is true and correct, and n over the age of 18 years.
Dated:	June 14, 2013 Marie Fleming