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07-AFC-5
DATE JAN 4 2010
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State Of California **The Resources Agency of California**

Memorandum

Date: January 4, 2009
Telephone: (916) 654-4679

To: Commissioner Jeffrey Byron, Presiding Member
Commissioner James D. Boyd, Associate Member

From: **California Energy Commission –** John Kessler, Project Manager
1516 Ninth Street
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Subject: **ENERGY COMMISSION STAFF'S REBUTTAL TESTIMONY**
IVANPAH SOLAR ELECTRIC GENERATING SYSTEM (07-AFC-5)
Exhibit 305

SUMMARY

Energy Commission staff is providing the following Rebuttal Testimony in the technical areas of Alternatives and Biological Resources. This testimony is organized as follows:

Section 1 – Alternatives, Testimony of Susan Lee

- **Rebuttal Testimony Figure 1**. (same as Alternatives Fig 5A from FSA/DEIS)
- **Rebuttal Testimony Figure 2** (same as Alternatives Fig 6 from FSA/DEIS
- **Rebuttal Testimony Figure 3** (Reduced Acreage alt map from July 09 workshop)

Section 2 – Biological Resources, Wildlife, Testimony of Susan Sanders and Rebuttal Testimony Figures 1 - 6

- **Rebuttal Testimony Figure 4** (same as Sierra Club's Exhibit 604, map of their survey area for I-15 Alternative)
- **Rebuttal Testimony Figure 5** (USGS Desert Tortoise Habitat Map from CH2MHill)
- **Rebuttal Testimony Figure 6** (Carolyn's 2800-ft eleva contour figure of the I-15 Alternative

Section 3 – Biological Resources, Special-Status Plants, Testimony of Misa Milliron and Rebuttal Testimony Figures 7 - 11

- **Rebuttal Testimony Figure 7** (same as Bio Fig 2 in FSA/DEIS, the "conceptual approach to plant avoidance)
- **Rebuttal Testimony Figure 8** (same as Bio Fig 1A in FSA/DEIS, range maps of pappas grass, cholla, Rusby's mallow)
- **Rebuttal Testimony Figure 9** (same as Bio Fig 1B in FSA/DEIS, range maps of tortoise, milkweed, pincushion)
- **Rebuttal Testimony Figure 10** (new figure of Androstephium range)

PROOF OF SERVICE (REVISED 12/15/09) FILED WITH
ORIGINAL MAILED FROM SACRAMENTO ON 1/5/10
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- **Rebuttal Testimony Figure 11** (Ivanpah valley existing and future/foreseeable projects and ss plant data)

Section 4 – Alternatives - Biological Resources, Desert Tortoise, Testimony of Richard Anderson (No figures), and Declaration

Section 5 – Alternatives - Biological Resources, Special-Status Plants, Testimony of Carolyn Chainey-Davis and Rebuttal Testimony Figure 12, and Declaration

- **Rebuttal Testimony Figure 12** (I-15 Alternative Field Analysis)

Exhibit 305 Attachments in Reference to Section 2:

Exhibit No	Date of Document	Description	Pages
305			
305a	2006	California Department of Fish and Game Incidental Take Permit #2081-2005-046-04 Los Angeles Department of Water and Power Pine Tree Wind Development Project	27
305b	2008	California Department of Fish and Game Incidental Take Permit #2081-2008-015-06 California State Lands Commission AT&T Fiber Optic Cable Replacement Project	29
305c	2006	California Department of Fish and Game Incidental Take Permit #2081-2005-028-06 Copper Mountain Community College District Copper Mountain Community College Expansion Site	15
305d	2009	California Department of Fish and Game Incidental Take Permit #2081-2009-018-06 Coso Operating Company LLC; Coso Hay Ranch Water Extraction and Delivery System	21
305e	2005	California Department of Fish and Game Incidental Take Permit #2081-2005-015-04 U.S. Borax, Inc.U.S. Borax, Inc. Life of Mine Project	30
305f	3/6/06	Memo from USFWS Regional Director H. Dale Hall to Regional Directors, Region 1,2,3,4,5,6, and 7 Manger, California/Nevada Operations Office, re: Recovery Units and Jeopardy Determinations under Section 7 of the Endangered Species Act	2

REBUTTAL TESTIMONY SECTION 1

ALTERNATIVES

1. THE FSA ALTERNATIVES ANALYSIS FULLY COMPLIES WITH CEQA

Intervenors (Sierra Club, Center for Biological Diversity, California Native Plant Society, others) state that the FSA alternatives analysis is insufficient because it fails to provide meaningful alternatives that would avoid significant impacts to the desert tortoise and other biological resources. As the intervenors correctly state, CEQA requires that the FSA consider a "range of reasonable alternatives," and staff believes that the FSA does this.

CEQA requires that a meaningful analysis be completed, including a reasonable range of alternatives. It is not always possible to identify a feasible alternative that lessens or avoids significant impacts (with the possible exception of the "no project" alternative). The following paragraphs explain the challenges in identifying viable alternatives to very large projects like the ISEGS project, describe the consideration of a private land alternative, and summarize the alternatives evaluated in the PSA and FSA.

Chapter 1 CHALLENGES IN ALTERNATIVES IDENTIFICATION

Identification of feasible site alternatives to the proposed project is difficult due to the very large size of the proposed project (at over 4,000 acres) and the criteria for siting a utility scale solar project. Requirements for a site alternative include the following:

To meet its project objective of providing 400 MW of generation, the project requires roughly 4,000 acres of land. Although there appears to be some flexibility in shape, the "power tower" concept is based on a tower surrounded by mirrors, which requires that each unit (or phase) be in a roughly square shape to allow concentric rows of mirrors. Moreover, land must be either a large single parcel or must have very large parcels located in close proximity to allow use of common infrastructure, such as a substation, transmission infrastructure and construction laydown areas. As proposed, the project requires 2 parcels of about 900 acres in a square configuration, and an additional parcel of about 1,800 acres in a square configuration).

The area must have high solarity and slope must be 5% or less

No protected lands can be used (eliminates wilderness areas, National Park lands, desert tortoise DWMAs, and BLM Areas of Critical Environmental Concern).

Requires access to a major infrastructure, including transmission lines, natural gas, and water.

Land acquisition or control must be feasible.

Applications to BLM have been submitted for nearly all areas that meet the above criteria. Based on consultation with BLM and staff research, staff was not able to identify any other BLM land that was free of encumbrances. BLM is required to give priority to

the first site applicant. As a result, alternative sites on BLM land with existing applications would be viable only if the same applicant has submitted speculative applications for multiple projects and is not committed to building them all.

Chapter 2 DISTURBED PRIVATE LAND ALTERNATIVES

Intervenor comments suggested consideration of alternative sites on disturbed private lands. According to the comments, disturbed lands are defined as those that have undergone intensive human activity such as brownfield sites, industrial sites, and agricultural lands. This land must also meet the solar development criteria defined above, and given the need for nearly 4,000 acres, staff has found that such sites are hard to find. No specific sites have been suggested by the groups suggesting use of disturbed private lands. The Renewable Energy Transmission Initiative's (RETI's) Environmental Working Group identified "disturbed areas" on the Phase 2A transmission maps[1], but these areas are grossly identified, and include all of southern California's most productive agricultural lands. In a survey of the nearest "disturbed area" to the ISEGS project (east of Barstow), staff identified that to acquire 4,000 acres in the portion of that area with the fewest landowners would require acquisition of 70 separate parcels.

In response to comments on the PSA, detailed, 25-page analysis of this Private Land Alternative was presented in the FSA. Alternatives Figures 5A and 5B illustrate the numbers of parcels in the area (**Rebuttal Testimony Figure 1**, from Alternatives Figure 5A is reproduced at the end of this testimony, for ease of reference). The Private Land Alternative was found to be preferred to the proposed ISEGS site at Ivanpah Valley in the areas of biological resources, visual resources, and traffic and transportation. However, the Private Land Alternative was found to have greater impacts than the proposed ISEGS site in cultural resources, land use (including agriculture), noise, and transmission system engineering. While the alternative did reduce impacts to biological resources due to the use of a more disturbed site, it created more severe impacts in several other areas.

Chapter 3 ALTERNATIVES EVALUATED IN THE PSA AND FSA

It was clear to staff when this Application was filed that the project had the potential to create significant and unavoidable impacts (both project-specific and cumulative) in a number of disciplines, and this was confirmed in the PSA and FSA's conclusions. As a result, the alternatives analysis was designed to be comprehensive. The 97-page Alternatives section of the PSA evaluated every alternative that was suggested in the scoping process and by the applicant, as well as several additional alternatives identified by staff. The 99-page Alternatives section of the FSA evaluated every alternative suggested after the PSA was published.

The PSA evaluated 21 alternatives, and the FSA evaluated 23 alternatives, as listed below:

[1] http://www.energy.ca.gov/reti/documents/phase2A_final/maps/

Site Alternatives

1. Siberia East Alternative
2. Broadwell Lake Alternative
3. I-15 Alternative (FSA only)
4. Applicant's Alternative Site A
5. Applicant's Alternative Site C
6. Reduced Acreage Alternative
7. Reconfiguration Alternative (PSA only)
8. No Project Alternative
9. Private Land Alternative
10. West of Clark Mountain Alternative
11. Private Land Alternative

Alternative Solar Generation Technologies

12. Parabolic trough technology
13. Stirling dish technology
14. Linear Fresnel technology
15. Photovoltaic technology

Alternative Renewable Technologies

16. Wind energy
17. Geothermal energy
18. Biomass energy
19. Tidal energy
20. Wave energy

Alternative Methods of Generating or Conserving Electricity

21. Natural gas generation
22. Coal generation
23. Nuclear energy
24. Conservation; demand-side management

The FSA considered all the alternatives listed above, including a detailed analysis of the Sierra Club's suggested alternative site immediately west of Interstate 15 (I-15) and the Private Land Alternative. The I-15 Alternative was suggested by the Sierra Club in June 2009, seven months after the issuance of the PSA (December 2008). Additional detail on this alternative is presented below. The FSA also added the detailed analysis of the Private Land Alternative, as described above, in response to comments. As in the PSA, the FSA seriously considered every alternative that was suggested during the process.

As defined in the FSA, the project has the potential to result in significant and unmitigable impacts in the areas of Land Use and Visual Resources, and possibly Biological Resources. Overall, the PSA and FSA present detailed analyses of six separate sites, and 17 other alternatives to the proposed project. While none of these alternatives were found to reduce or avoid these significant impacts, the analysis was clearly "meaningful" and provided an exceptionally complete and thorough consideration of alternatives in compliance with CEQA. Significantly, no alternatives that are consistent with essential project objectives have been proposed by any party that would avoid the significant cumulative impact to Land Use and the direct and cumulative impacts to Visual Resources.

2. FSA ANALYSIS OF THE I-15 ALTERNATIVE

The Sierra Club and other intervenors state that the staff analysis of the I-15 Alternative in the FSA is inadequate because it concludes that the impacts of moving the ISEGS project to the alternative site would not be reduced in comparison with the proposed site. The I-15 Alternative (as illustrated on Alternatives Figure 6, reproduced at the end of this testimony) includes the majority of Ivanpah Phase 1 in order to have the required total acreage. As illustrated in Alternatives Figure 6, Staff's definition of the I-15 Alternative (also known as the Sierra Club Alternative) in the FSA was based on the

Sierra Club's definition in its June 2009 letter to BLM: an "… alternative that … relocated the Project's three power blocks closer to the areas adjacent to Interstate 15 currently mapped as translocation sites…". The Sierra Club did not provide a map of the suggested alternative. Staff established the eastern boundary of the I-15 Alternative approximately 1,000 feet from the freeway to avoid conflict with the Caltrans Joint Port of Entry facilities that are proposed to be located along the freeway at this location.

In order to compare the I-15 Alternative with the proposed site, staff arranged for botanist Carolyn Chainey-Davis, wildlife biologist Richard Anderson, and a cultural resources team to visit the alternative site and assess the comparative values of the two adjacent sites.

The cultural resources team determined that the resource value at the I-15 Alternative would likely be similar to those of the proposed project, which has been found to be very low.

Protocol surveys for special-status plant species and desert tortoise could not be done due to the time of year (August 2009), which was inappropriate for those surveys. The reconnaissance wildlife surveys indicated that most of the I-15 Alternative site included high quality, relatively undisturbed habitat with potential to support desert tortoise and other special-status wildlife species. The plant surveys found that the higher elevation portions of the site (approximately 2,800 feet and above) featured habitat conditions very similar to the areas supporting special-status plant species on the ISEGS site. These higher elevation areas constituted approximately 60 percent of the site. These higher elevation areas constitute over 3,000 acres of good to excellent habitat adjacent to known occurrences of rare plants in high densities.

Ms. Chainey-Davis and Mr. Anderson concluded that construction on the I-15 Alternative site is likely have significant impacts to special-status plant species and desert tortoise because of the similarity in habitat conditions between the two sites. The testimony of Ms. Chainey-Davis and Mr. Anderson provide more detail on the survey methods, findings and conclusions, and are included as Sections 4 and 5 of this document.

Staff concludes in the FSA that approximately 60 percent of the I-15 Alternative site has potentially valuable habitat. This was based on identification of characteristics similar to those where the greatest concentrations of special-status plant species exist on Ivanpah, adjacent to the I-15 Alternative. In addition, the quality of desert tortoise habitat was found to be comparable to that within the proposed project area.

Staff (including the alternatives and the biological resources specialists) have reviewed the data and survey results provided in the Sierra Club testimony for the I-15 Alternative area. Having completed additional research and analysis after review of the Sierra Club testimony, staff still strongly believes that construction of the ISEGS project on the I-15 Alternative site would not reduce impacts in comparison with the proposed site.

There was clearly variability in habitat quality within the alternative's boundaries, as there is on the proposed project site where surveys show that the second of three project phases would have minimal effects on biological resources. After study of the Sierra Club survey data and testimony, Staff still believes that the FSA's conclusion regarding the *overall* similarity of the two sites is accurate.

CONSIDERATION OF A MODIFIED I-15 ALTERNATIVE

The FSA makes it clear that staff did not have the time (or appropriate survey seasons) required to perform comprehensive surveys for the I-15 Alternative, like those done for the proposed project. Based on substantial research and staff's site visits, it appears that there may be 30 or 40 percent of the I-15 Alternative site within which the populations of special-status plant species would be reduced in comparison to the more valuable portions of the proposed project site.

Based on the Sierra Club testimony, workshop discussions, and further research, staff has evaluated all available data on this alternative site in an effort to further define the distribution of biological resources within the I-15 Alternative area.

As defined in more detail in the Biological Resources Rebuttal Testimony, Staff believes that the northernmost portions of the I-15 Alternative likely have lower value habitat for both plants and desert tortoise. This lower value area is the northernmost quarter of that alternative area, as illustrated on **Rebuttal Testimony Figure 2** (from FSA Alternatives Figure 6, presented at the end of this section). Identification of this area does not contradict the conclusion of the FSA with regard to the overall value of the alternative site in comparison with the proposed site, but it does provide some additional information about the shape and availability of lands that may have fewer impacts. Research shows the following:

About 1,500 acres of the I-15 Alternative are located below 2,800 feet of elevation. This is the elevation below which the habitat characteristics change, reducing the likelihood of rare plant presence.

Rebuttal Testimony Figure 6 (Desert Tortoise Habitats, Relocation and Translocation Areas; copy provided in Biological Resources Rebuttal Testimony) identifies most of the I-15 Alternative area as being in very high potential desert tortoise zones. The area with lowest potential is immediately south and west of the golf course, the same areas as the portion below 2,800 feet of elevation.

In conclusion, it appears that there may be 1,500 acres or more of lower quality habitat at the north end of the I-15 Alternative that could be used for solar development. Engineering analysis by the applicant is required to determine the size of the solar field could be located within this area. **Rebuttal Testimony Figure 2** (based on FSA Alternatives Figure 6) shows a yellow square that is the size of Ivanpah 3, the 200 MW phase. If Ivanpah 3 were reduced in size (see Section 4 below) and Ivanpah 1 were expanded in size and relocated as shown in yellow, the overall 400 MW generation output might be retained, while still avoiding most valuable biological resources.

4. CONSIDERATION OF THE "REDUCED ACREAGE ALTERNATIVE"

In consideration of comments on the PSA, staff also developed a Reduced Acreage Alternative, as explained in the FSA on pages 4-52 and 4-53. **Rebuttal Testimony Figure 7** (FSA Biological Resources Figure 2) illustrates the distribution of rare plants on the proposed site; the distribution of these plants was a major concern in the development of this alternative.

As described in the FSA, the Reduced Acreage Alternative was eliminated from detailed analysis because the Condition of Certification BIO-18 was concurrently developed. This mitigation measure, if implemented as defined, would require avoidance of 75% of the rare plants on the project site. Due to the uncertainties in defining the feasibility of engineering changes required to implement a Reduced Acreage Alternative, this alternative was dropped in favor of BIO-18.

At the FSA staff workshop on December 15, 2009, the applicant presented a conceptual special-status mitigation approach that was based in part on recommendations in Condition of Certification BIO-18. Staff has not yet received anything more than a verbal description of the applicant's conceptual Special-Status Plant Protection Plan. The testimony of Misa Milliron provides a more detailed discussion of Condition of Certification BIO-18 and the applicant's conceptual plans, and is included in this document as Section 3. Section 3 also discusses the considerable uncertainty that remains as to whether the applicant's conceptual plan would be effective in avoiding direct and indirect impacts to special-status plants.

As a result of the uncertain implementation of BIO-18, staff requests applicant and intervenor consideration of the Reduced Acreage Alternative, which would provide far more certain protection for some of the highest concentrations of special-status plant species occurrences. This alternative would remove at least two areas from any development effects: (1) portions of Ivanpah 3 (especially the northern area), and (2) portions near the transmission corridor and laydown area, and the northwestern part of Ivanpah 1. These areas are illustrated in **Rebuttal Testimony Figure 3**, a map presented for discussion at the July 31, 2009 PSA Workshop (attached at the end of this rebuttal testimony). The black dashed box and blue dashed oval are the areas suggested for avoidance under this alternative.

5. CONCLUSION

The FSA, which incorporates the PSA and its more detailed analysis of two alternative sites (Broadwell Lake and Siberia East) fully complies with all CEQA requirements for alternatives analysis.

Relocating the entire proposed project to the I-15 Alternative area, as defined in the FSA, would not avoid or lessen project impacts overall.

Additional information developed after the FSA has pointed out relocating portions of the proposed project to portions of the I-15 Alternative site may be beneficial but the

area contains only about 1,500 acres. Comprehensive surveys and engineering would be required to evaluate viability.

The Reduced Acreage Alternative should be reconsidered given the applicant's concerns about implementation of BIO-18.

SECTION 2 OF ENERGY COMMISSION STAFF REBUTTAL

TESTIMONY OF SUSAN SANDERS: BIOLOGICAL RESOURCES, WILDLIFE

MINOR CHANGES TO BIO-6, WORKER ENVIRONMENTAL AWARENESS PROGRAM

The applicant expressed concern that the requirement in Condition of Certification BIO-6 to provide Worker Environmental Awareness Program (WEAP) material "in the language best understood by the participants" was vague and ambiguous. Staff is agreeable to deleting this sentence because BIO-6 contains numerous other elements that provide adequate assurance of compliance, including a requirement that all employees sign a form stating that they attended the program and understand all protection measures.

The applicant has also suggested that approval for the WEAP should rest only with the Compliance Project Manager (CPM), and has deleted the reference to approval by the U.S. Bureau of Land Management (BLM) Authorized Office, U.S. Fish and Wildlife Service (USFWS), and California Department of Fish and Game (CDFG). The issue of concurrent BLM and Energy Commission approval is addressed more globally elsewhere.

With respect to approval by CDFG, staff agrees with the applicant's arguments provided in their Pre-hearing Conference Statement, which notes that the Energy Commission has exclusive permitting authority for state permits. Staff also agrees that the WEAP would incorporate the requirements described in the USFWS Biological Opinion, and that explicit USFWS approval would not be required for the WEAP. The CDFG and USFWS will be provided a copy of the WEAP for review and comment, but no approval from these agencies would be required. Staff's suggested revised language in the relevant sections follows:

> **BIO-6** The project owner shall develop and implement an Ivanpah SEGS-specific Worker Environmental Awareness Program (WEAP) and shall secure approval for the WEAP from ~~USFWS, CDFG,~~ BLM's Authorized Officer and the CPM. <u>The USFWS and CDFG shall also be provided a copy of the WEAP for review and comment.</u>
>
> 1. Be developed by or in consultation with the Designated Biologist and consist of an on-site or training center presentation in which supporting written material and electronic media, including photographs of protected species, is made available to all participants. ~~The training presentation shall be made available in the language best understood by the participants~~

Minor Changes to BIO-8 to Allow Temporary Desert Tortoise Fencing in Utility Right of Way

The applicant has suggested revisions to Condition of Certification BIO-8, the condition relating to desert tortoise clearance surveys and fencing, deleting the requirement that temporary fencing along utility corridors must follow guidelines for permanent fencing. The applicant's representatives noted at the workshop held on December 22, 2009 that construction of permanent desert tortoise fencing has its own potential impacts to desert tortoise, and suggest instead a statement that temporary fencing "must be able to prevent tortoise from entering the work area."

After consulting the USFWS and CDFG on this proposed change, staff concluded that temporary fencing would be acceptable if biological monitors would be present for all construction activities, trenches would be covered at night, and if all other appropriate desert tortoise avoidance and minimization measures were implemented. Staff recommended revisions are as follows:

a. Utility Corridor Fencing. The utility rights-of-way shall be temporarily fenced on each side of the right-of-way prior to ground disturbing activities to prevent desert tortoise entry during construction. Temporary fencing ~~must follow guidelines for permanent fencing~~ must be capable of preventing desert tortoises from entering the work area, with ~~and~~ supporting stakes ~~shall be~~ sufficiently spaced to maintain fence integrity. The Designated Biologist or Biological Monitor shall be present to supervise all construction activities occurring within areas bounded by temporary fencing.

No Changes to BIO-9, Desert Tortoise Translocation Plan Condition Retained, Except Requirement for CDFG Approval

The applicant suggested several changes to the language in BIO-9, the condition describing review and implementation of a final Desert Tortoise Translocation Plan, deleting the requirement that BLM, CDFG, USFWS and Energy Commission staff approve the document. As described above, staff agrees that CDFG should be provided a copy of the Translocation Plan for review and comment, but approval is not necessary because of the Energy Commission's exclusive permitting authority for state permits. Staff also accepts the applicant's suggested change to require approval from the CPM rather than "Energy Commission staff" because as a practical matter the CPM would consult with staff before approving the Translocation Plan.

Staff does not agree with the applicant's suggested revisions for deleting USFWS approval because the Translocation Plan included in this condition must be completely consistent with the Biological Opinion that will be issued by the USFWS. Review and approval by USFWS is the most reliable way to ensure this consistency. Staff has accepted some of the applicant's changes in the verification section, including replacement of "Energy Commission staff" with CPM, and deleting the sentence requiring the project owner to notify BLM's Authorized Officer and the CPM no fewer

than 5 working days before implementing any BLM- and CPM-approved modifications to the Plan. Staff's suggested revised language in the relevant sections follows:

BIO-9 The project owner shall develop and implement a final Desert Tortoise Relocation/Translocation Plan (Plan) that is consistent with current USFWS approved guidelines, and meets the approval of BLM~~, USFWS, CDFG and Energy Commission staff~~'s Authorized Officer, USFWS and the CPM, in consultation with CDFG. The final Plan shall be based on the draft Desert Tortoise Relocation/Translocation Plan prepared by the applicant dated May 2009 and shall include all revisions deemed necessary by BLM's Authorized Officer, USFWS, and the CPM, in consultation with CDFG~~ and the Energy Commission staff~~.

Verification: Within 60 days of publication of the Energy Commission Decision the project owner shall provide BLM's Authorized Officer and the CPM with the final version of a Desert Tortoise Relocation/Translocation Plan that has been reviewed ~~and approved~~ by BLM, USFWS, CDFG and Energy Commission staff. BLM's Authorized Officer and the CPM will determine the plan's acceptability within 15 days of receipt of the final plan. All modifications to the approved translocation must be made only after consultation with BLM's Authorized Officer, USFWS and the CPM, ~~USFWS, and~~ in consultation with CDFG. ~~The project owner shall notify BLM's Authorized Officer and the CPM no fewer than 5 working days before implementing any BLM- and CPM-approved modifications to the Plan.~~

Minor Changes to BIO-11, Handling of Roadkilled Animals

Condition of Certification BIO-11, Avoidance and Minimization Measures, included numerous requirements that would minimize the potential for direct and indirect impacts to desert tortoise and other wildlife, including item #13, which specified that roadkill be quickly removed from the project site to avoid attracting desert tortoise predators such as ravens and coyotes. The applicant requested that this condition be revised to add that roadkill should be disposed of only by Biological Monitors to ensure proper species identification. Also, due to potential scientific value of the carcass, the applicant requested that special-status species roadkill be held by the biologists until they receive direction from CDFG and/or the FWS as to its disposition. Staff concurs with these changes to item #13 of Bio-11, as follows:

13. Dispose of Roadkilled Animals. Road killed animals or other carcasses detected in the project area or on roads near the project area shall be picked up immediately and delivered to the Biological Monitor. Within 1 working day of receipt of the carcass the Biological Monitor shall contact CDFG and/or USFWS for guidance on disposal or storage of the carcass~~upon detection and appropriately disposed of to avoid attracting common ravens and coyotes~~.

Impacts to Migratory Birds from Heliostat Collisions, Burns

The Center for Biological Diversity (CDB) testimony expressed concern about the potential risks to birds from collisions with mirrors and towers, and from burns from flying into the beam from heliostats to towers. The CBD commented that no baseline data were available documenting existing bird use at the site, making an analysis of impacts to birds and the significance of those impacts impossible, and commented that the site was within a migratory pathway. The CBD stated that impacts to birds could be avoided or minimized if mirrors and towers were properly sited, requesting that analyses needed to be done prior to the FSA/DEIS being produced and still need to be done, noting that detailed surveys and analyses are the basis for the evaluation of impacts to biological resources as required by CEQA and NEPA.

Staff's and CBD's analysis of this potential impact both relied on the only available research that has been conducted at a solar facility similar to the proposed project, the McCrary (1996) research at a solar energy facility near Daggett in San Bernardino County. Results of that study indicated that much of the bird mortality they observed, which consisted predominantly of collisions with heliostats, resulted from increased numbers of bird numbers attracted to the adjacent evaporation ponds and agricultural fields. Staff concluded that without such a nearby attractant bird numbers, and hence likelihood of bird collisions, would be low. CBD, on the other hand, concluded that the Primm Golf Course two miles to the east could serve as an attractant that might increase risk of collisions.

CDB's concerns prompted staff to review the literature on the subject of bird-glass collisions, and to reconsider the potential risks to birds at the project site (see www.nycaudubon.org/home/BSBGuidelines.shtml for a link to recent literature survey and additional information on this subject). Collisions with reflective and transparent plate glass are estimated to kill 100 to 1000 million birds a year for the continental US (Klem 1990). Gelb and Delacretaz (2009) report that birds perceive reflected images of vegetation or sky in the windows as continuous habitat, leading them to collide with the solid glass. Although staff does not think it likely that the project heliostats poses a significant collision risk to resident or migratory birds at the project site, there is simply insufficient information available to conclude with certainty that the Ivanpah project would not be a minor but sustained source of mortality to birds for the life of the project.

At the December 15, 2009 workshop, the issue of bird-heliostat collision was discussed with the applicant and intervenors, and staff agreed to provide language in the conditions of certification for a monitoring program for bird carcasses that the applicant could integrate with operations activities such as mirror washing. Staff has added a new measure, to be numbered #14, to Condition of Certification BIO-11, and additional verification language, as follows:

> 14. Bird Carcass Reporting. On-site personnel shall photograph and record the location of all bird carcasses encountered within the solar fields, and shall provide the bird carcass, photograph, and location data to the

Designated Biologist. The Designated Biologist shall identify the bird, ascertain a cause of death if possible, maintain a database of this information for all bird carcasses, and each year of operation shall provide a report summarizing this information to the CPM, BLM's Authorized Officer, CDFG and USFWS.

Verification: All mitigation measures and their implementation methods shall be included in the BRMIMP~~. and implemented~~. Implementation of the measures sha~~will~~l be reported in the Monthly Compliance Reports by the Designated Biologist. Within 30 days after completion of project construction, the project owner shall provide to BLM's Authorized Officer and the CPM, for review and approval, a written construction termination report identifying how measures have been completed. The Designated Biologist shall provide to the CPM, BLM's Authorized Officer, CDFG, and USFWS an annual report summarizing all available data (species of carcass, date and location collected, and cause of death) describing bird and other carcasses collected within the project site each year.

Minor Changes to BIO-12, Raven Management Plan Review Requirements and Verification

The applicant suggested revisions to the Condition of Certification BIO-12, the condition requiring implementation of a Raven Management Plan. Similar to the request for changes for Condition of Certification BIO-6 described above, the applicant seeks streamlining during the compliance process so that CDFG and USFWS have a review and comment capacity rather than a review and approve. Staff is agreeable to these changes for the reasons described earlier. The applicant also requested a change in the verification times, suggesting 90 days rather than 30 days to prepare a written report identifying which items of the Raven Management Plan have been completed, modified, or remain outstanding. Recognizing that 30 days is a short time frame for preparation of this report, but also acknowledging that 90 days might be too long a wait for identifying outstanding items, staff has compromised by changing the requirement to 60 days.

BIO-12 The project owner shall implement a Raven Management Plan that is consistent with the most current USFWS-approved raven management guidelines, and which meets the approval of USFWS, ~~CDFG,~~ BLM's Authorized Officer, and the ~~Energy Commission staff~~CPM in consultation with CDFG. The draft Raven Management Plan submitted by the applicant (CH2M Hill 2008f) shall provide the basis for the final plan, subject to review and revisions from USFWS~~, CDFG~~, BLM's Authorized Officer and the CPM in consultation with CDFG~~, and the Energy Commission staff~~.

Verification: At least 60 days prior to start of any project-related ground disturbance activities, the project owner shall provide BLM's Authorized Officer, the CPM, USFWS, and CDFG with the final version of a Raven Management Plan that has been reviewed by USFWS, CDFG, BLM, and the Energy Commission staff. The CPM and BLM's Authorized Officer will determine the plan's acceptability within 15 days of receipt of the final plan. All modifications to the approved Raven Management Plan shall be made

only after ~~consultation with~~ approval by BLM's Authorized Officer and the CPM, in consultation with ~~and Energy Commission staff,~~ USFWS, and CDFG. T~~he project owner shall notify BLM's Authorized Officer and the CPM no less than 5 working days before implementing any BLM- and CPM-approved modifications to the Raven Management Plan.~~

Within 60 ~~30~~ days after completion of project construction, the project owner shall provide to the CPM for review and approval, a written report identifying which items of the Raven Management Plan have been completed, a summary of all modifications to mitigation measures made during the project's construction phase, and which items are still outstanding.

Minor Changes to BIO – 13, Weed Management Review Requirements

The applicant suggested rewording of Condition of Certification BIO-13, the Weed Management Plan, similar to that described above to replace review and approval by CDFG and USFWS with review and comment. Staff is agreeable to these changes for reasons discussed above. The applicant also suggested language that would impose a 60-day limit for receiving agency review comments, but staff has not accepted this change because conditions of certification cannot be enforced on parties other than the project owner.

BIO-13 The project owner shall implement a Weed Management Plan that meets the approval of BLM and the ~~Energy Commission staff~~ CPM. The draft Weed Management Plan submitted by the applicant (CH2M Hill 2008e) shall provide the basis for the final plan, subject to review and approval from BLM and the ~~Energy Commission staff~~ CPM~~, and review and comment from,~~ in consultation with USFWS, and CDFG. In addition to describing weed eradication and control methods, and a reporting plan for weed management during and after construction, the final Weed Management Plan shall include at least the following Best Management Practices to prevent the spread and propagation of noxious weeds:

Verification: At least 60 days prior to start of any project-related ground disturbance activities, the project owner shall provide BLM's Authorized Officer and the CPM with the final version of a Weed Management Plan ~~that has been reviewed and approved by BLM, and Energy Commission staff, USFWS, and CDFG~~. BLM's Authorized Officer and the CPM will determine the plan's acceptability within 15 days of receipt of the final plan. All modifications to the approved Weed Control Plan must be made only after consultation with the CPM ~~Energy Commission staff,~~ and BLM's Authorized Officer, in consultation with USFWS, and CDFG. ~~The project owner shall notify the CPM no less than 5 working days before implementing any BLM- and CPM-approved modifications to the Weed Management Plan.~~

Applicant Needs to Revise the Closure, Revegetation and Rehabilitation Plan

The Center for Biological Diversity commented that desert lands are notoriously difficult to revegetate or rehabilitate, and that revegetation never supports the same diversity that originally occurred in the plant community prior to disturbance. They also discuss the huge task presented by revegetating over six square miles, and note that sufficient bonding would be necessary to make sure revegetation obligations are met. Staff agrees with the Center for Biological Diversity's comments on the applicant's proposed revegetation effort.

The applicant's testimony asserts that Condition of Certification BI0-14 does not acknowledge that they already revised their Closure, Revegetation and Rehabilitation Plan (CCRP) in response to staff comments. As described on pages 6.2-35 of the FSA/DEIS, staff provided comments and recommendations for major revisions to the applicant's August 2008 CCRP. The applicant did indeed submit a revised plan in June 2009, but this revised plan still falls short of supplying adequate information to successfully guide the necessary salvage, revegetation, and rehabilitation efforts for this project. Appendix B in the FSA/DEIS, "Issues to Address in the Closure, Revegetation and Rehabilitation Plan" offers specific recommendations for revisions and describes the issues that need to be addressed to provide an acceptable plan. In their testimony the applicant characterizes Appendix B as "principally weakly adjudicated review comments regarding the CRRP. They include requirements for unnecessary research projects, unrealistic revegetation goals, and display fundamental misunderstandings regarding the biological goals and ecological basis of the current CRRP…" Staff disagrees with this characterization, but rather than argue about the nature of the comments in Appendix B, the applicant and staff agreed at the December 22, 2009 workshop to have their respective revegetation experts work together to make the necessary revisions to the CCRP. Staff has also shared the Center for Biological Diversity's specific comments on the CRRP with BLM's revegetation expert so that the revisions could address those concerns.

The applicant suggested revised language for BIO-14 to indicate they would notify BLM and the Energy Commission within thirty days from approval of the revised condition of certification of goals and methods it considers to be unrealistic, not attainable, or unnecessary to achieve fulfill revegetation and restoration requirements. Staff cannot accept this suggested revision because BLM, not the applicant, must be the final arbiter of which revegetation and reclamation methods and goals are most appropriate to fulfill BLM's requirements for public land that they manage. However, staff does accept suggested changes regarding document review and comments by USFWS and CDFG, as discussed earlier. Staff also made changes reflecting the fact that the applicant has decided that the nursery for plant materials will be at an onsite facility.

The applicant also pointed in their testimony that in two locations BIO-14 incorrectly refers to Appendix A rather than Appendix B, and provided the incorrect title of Appendix B. The corrected text is provided below.

BIO-14 The project owner shall develop and implement a revised Closure, Revegetation and Rehabilitation Plan (Plan) in cooperation with BLM and Energy Commission staff~~, USFWS and CDFG~~ to guide site restoration and closure activities, including methods proposed for revegetation of disturbed areas immediately following construction and rehabilitation and revegetation upon closure of the facility. This plan must address preconstruction salvage and relocation of succulent vegetation from the site to ~~either~~ an onsite ~~or nearby~~ nursery facility for storage and propagation of material to reclaim disturbed areas. In the case of unexpected closure, the plan ~~should~~ assume<u>s</u> restoration activities ~~c~~w<u></u>ould possibly take place prior to the anticipated lifespan of the plant. The Plan shall address all issues discussed in **Biological Resources Appendix-~~A~~B**: *<u>Issues to Address in the</u> ~~Revisions to Draft~~ Closure, Revegetation and Rehabilitation Plan*…….:

<u>Verification:</u> No more than 30 days from the Energy Commission Decision and BLM Record of Decision the project owner shall provide BLM's Authorized Officer and the CPM with a draft version of the revised Closure, Revegetation and Rehabilitation Plan. At least 60 days prior to start of any project-related ground disturbance activities, the project owner shall provide BLM's Authorized Officer and the CPM with the final version of the Closure, Revegetation and Rehabilitation Plan that has been reviewed and approved by BLM<u>'s Authorized Officer</u> ~~USFWS, CDFG,~~ and the <u>CPM</u>~~Energy Commission staff~~. All modifications to the approved Revegetation and Reclamation Plan must be made only after consultation with BLM's Authorized Officer <u>and</u> <u>,</u>~~,~~the CPM~~,~~ ~~USFWS and CDFG~~. ~~The project owner shall notify BLM's Authorized Officer and the CPM and no less than 5 working days before implementing any BLM- and CPM-approved modifications to the Closure, Revegetation and Rehabilitation Plan.~~

Applicant's Changes to BIO-17, Desert Tortoise Compensatory Mitigation, Fail to Satisfy California Endangered Species Act Requirements

The Center for Biological Diversity, Sierra Club, Western Watersheds Project, Basin and Range Watch, and Defenders of Wildlife have all expressed grave concerns about the impact of this project on desert tortoise. Staff agrees with the conclusions from these intervenors, which is that the Ivanpah project would have significant direct, indirect, and cumulative impacts to desert tortoise. Staff's proposed mitigation for this significant impact is for the applicant to provide compensatory mitigation at a 3:1 ratio, as described in Condition of Certification BIO-17. In their testimony the applicant deleted all of BIO-17 and replaced it with language suggesting that BLM undertake the implementation of the recommended 3:1 mitigation. The applicant also made an alternative suggestion that BLM determine with "sole and absolute discretion" the appropriate per acre fee to accomplish all compensatory mitigation. The applicant's revisions eliminate without replacement the terms and conditions describing the selection criteria for compensations lands, the process for review and approval of these lands prior to acquisition, and specifics on security for financial assurances to provide an adequate level of funding to implement the proposed mitigation.

In its original form Condition of Certification BIO-17 incorporated required terms and conditions that would otherwise have been included in an Incidental Take Permit from CDFG if not for the Energy Commission's exclusive permitting authority that is "in lieu of" other state, local, and regional permits. As described on page 6.2-53 of the FSA/DEIS, these recommendations are consistent with past Energy Commission Decisions for take of state listed species and with recent Incidental Take Permits issued by CDFG for desert tortoise (see Attachments 305a through 305e for examples of recent Incidental Take Permits).

Staff cannot accept the applicant's suggested revisions because they would fail to satisfy Sections 2081(b) and (c) of the California Endangered Species Act, which allow an Incidental Take Permit to be issued only if criteria described in Title 14 CCR, Sections 783.4(a) and (b), are met. These criteria include a requirement that the impacts of take be minimized and fully mitigated, and that adequate funding be provided to implement the required minimization and mitigation measures and to monitor compliance with and the effectiveness of the measures. The security for funding described in item #4 of Condition of Certification BIO-17 meets these criteria and provides sufficient and specific assurances of adequate funding for land acquisition, habitat improvements and long-term management and monitoring. The applicant's proposed revisions would not satisfy these criteria and CESA requirements because they provide no specificity for funding or assurances that the amount determined by BLM would be adequate for mitigation implementation and monitoring for impacts to a state-listed species.

Benefits of Land Acquisition and Other Enhancement Actions as Mitigation for Desert Tortoise Impacts

Energy Commission staff and CDFG recommend land acquisition, accompanied by enhancement and protection of the acquired lands, as the primary means of mitigating for impacts to desert tortoise. Of all of the possible desert tortoise recovery actions, establishing reserves where management is directed solely to the protection of desert tortoise is the one most likely to receive unanimous agreement among biologists as an appropriate mitigation measure (Boarman and Kristen 2006). Establishment of dedicated reserves provides increased protection for tortoise populations against multiple threats, and the 1994 USFWS Desert Tortoise Recovery Plan emphasizes protection of large areas containing healthy tortoise populations as a significant recovery action (Boarman and Kristen 2006). According to the 1994 Desert Tortoise Recovery Plan, approximately 1,051,500 acres of privately-owned land occurs within critical habitat units in California.

Enhancement actions other than land acquisition also offer benefits to desert tortoise populations and will be an essential component of recovery efforts for this species. The Desert Tortoise Recovery Plans (USFWS 1994, 2008) discusses a number of recovery actions that would benefit desert tortoise, which were considered by staff in developing Condition of Certification BIO-17. The following list includes recovery actions that have

been identified by staff, CDFG, USFWS, and BLM as desert tortoise enhancement efforts that could be implemented to fulfill BLM's mitigation requirements:

Fencing:

- I-15 from Nipton Road to Ivanpah Dry Lake;
- U.S. Highway 95 through Piute Valley from the CA/NV line to Goffs Road;
- Nipton Road between CA/NV border and I-15;
- Fence boundary for the community of Nipton;
- Fence boundary for the community of Goffs.

Habitat Restoration:

- Restore habitat, including vertical mulching, of closed routes in Shadow Valley, Piute Valley, and Ivanpah Valley; or other important habitat areas for desert tortoise;
- Exotic plant removal (for example, tamarisk removal from washes/springs) in areas important to desert tortoise;
- Identify and clean up destroyed or damaged habitat areas, which may include illegal dumpsites and illegal routes, in Shadow Valley, Piute Valley, and Ivanpah Valley, critical habitat portions of the Mojave National Preserve, or other important habitat areas for desert tortoise.

Interim "In-Lieu Fee" Mitigation Process for Desert Renewable Energy Conservation Plan May Work for the Ivanpah Project

The Energy Commission, BLM, USFWS, and CDFG are working together as part of the Renewable Energy Action Team (REAT) to identify mitigation and enhancement projects that would meet the unique requirements of large-scale renewable energy projects in the California Desert. One of the goals of the REAT is to produce the Desert Renewable Energy Conservation Plan (DRECP) for the California deserts which would offer a regional and programmatic approach to mitigating impacts to biological resources, including listed species. The DRECP will provide a process for pooling biological resource conservation funds and directing funding to the actions that most effectively produce conservation and recovery of target species.

In their comment letter on the Ivanpah PSA, CDFG recommended consideration of an in-lieu fee program currently under development by the REAT to facilitate the processing and directing of impact compensation and conservation funding (Hunting 2009: Letter from K. Hunting, CDFG to John Kessler, CEC, October 27, 2009, tn 53837). The conceptual in-lieu fee program being developed for the DRECP would base cost estimates on current land prices via appropriate appraisals and assign per-acre values for the purposes of compensatory habitat acquisition. Actual acquisition, through fee title, deed restriction, easements or other mechanism, would then be carried out by a designated third-party and directed to areas identified through the DRECP process as supporting the highest conservation values. According to CDFG's letter, the REAT anticipates having a fully operational program in place early in 2010 that could accommodate an in-lieu fee from the Ivanpah applicant.

Staff concurs with CDFG's recommendation that the Ivanpah project participate in this in-lieu fee program if it is sufficiently established and operational in a time frame that would allow revisions to Condition of Certification BIO-17. The in-lieu fee would replace the security requirement described in item #4 of BIO-17.

Nesting Locations of Golden Eagles Near Ivanpah

The Center for Biological Diversity testimony commented that the FSA/DEIS failed to present exactly how it will mitigate the loss of the substantial amount of foraging habitat for the golden eagle, stating that the project would decrease the carrying capacity of the landscape and could result in a potential loss of habitat needed to support a nesting pair. Their testimony comments that the FSA/DEIS did not disclose even generally the location of the golden eagle nest in the Clark Mountains, expressing concern that the presence of humans detected by a raptor in its nesting or hunting habitat can be a significant habitat altering disturbance even if the human is far from an active nest.

The Center for Biological Diversity commented that the FSA/DEIS fails to disclose the location of the golden eagle nests in the Clark Mountains. Dr. Larry LaPre from BLM has provided the following information about records for golden eagle nests in the Clark Mountains:

- 7400' SW 1/4 of SE 1/4 Section 21, T 17N, R 13E - inactive
- 6400' NE 1/4 of SW 1/4 Section 27, T 17N, R 13E - active
- 5000' SW 1/4 of NW 1/4 Section 10, T 15N, R 14E - inactive
- 6500' SE 1/4 of NW 1/4 Section 33, T 17N, R 13E - inactive.
- 7100' NE 1/4 of SW 1/4 Section 28, T 17N, R 13E - inactive
- 7100' NE 1/4 of SE 1/4 Section 29, T 17N, R 13E - inactive

Dr. LaPre notes that the nests in T17N, R13E are all within a mile of each other and are probably the same eagle territory, and are approximately seven miles west of the Ivanpah site. The other nest is about eight miles south, and is a different pair.

Staff has concluded that the golden eagle nests in the Clark Mountains are sufficiently distant from the project site so that direct disturbance of nesting activities from project activities is unlikely. Staff has also concluded that for a species with a breeding season home range of 20-33 km^2 (Kochert et al. 2002) the loss of approximately 4,000 acres of foraging habitat is not likely to significantly affect the nesting success of these golden eagles.

No Changes for Bighorn Sheep Mitigation

The Center for Biological Diversity commented that the FSA/DEIS did not comprehensively assess the impacts of the project on the local bighorn population and the proposed mitigation measures do not address the impacts of the proposed project on bighorn. They also commented on the lack of basic information about the use of the area by bighorn, stating that it made it impossible to assess the extent of the impacts to

the bighorn population in this area, and noting that the proposed mitigation does nothing to mitigate for the loss of forage areas, movement corridors, or the fragmentation of the habitat by constructing a massive solar operation in a wildlife corridor. The Center for Biological Diversity suggests additional field research be conducted and a site-specific analysis prepared to formulate measures to avoid impacts to the bighorn and/or develop mitigation measures for the benefit of the local desert bighorn populations.

Staff agrees that site-specific information on bighorn sheep is lacking, and discussed that absence of survey data on pages 6.2-46 of the FSA/DEIS. Staff also agrees that without information it is difficult to assess impacts and develop effective mitigation measures. In the absence of survey information confirming the presence of bighorn sheep in the project area, staff has conservatively assumed that bighorn sheep could occur in the project area at certain times of the year. Staff's proposed Condition of Certification BIO-19 to compensate for the project's contributions to cumulative impacts to bighorn sheep. The applicant has eliminated Condition of Certification BIO-19 in its entirety, with no recommendations for replacement language, indicating that "mitigation is not required in the absence of a significant unmitigated impact." Staff cannot accept the deletion of this condition because, as described on page 6.2-46 of the FSA/DEIS, staff has concluded that direct and indirect impacts of the project could contribute to the cumulative impacts to bighorn sheep in the eastern Mojave Desert. Staff believes that construction and management of an artificial water source in the eastern part of the Clark Mountain range or in the State Line Hills would provide benefits to bighorn sheep populations and would help to offset this cumulative impact. Research by Dolan (2006) indicates the benefits of developing water sources for bighorn sheep, and provides and appropriate measure for mitigating negative anthropogenic influences in an otherwise natural setting.

No Changes to Lake and Streambed Alteration Agreement for Impacts to State Waters

Condition of Certification BIO-20 provides proposed terms for the Lake and Streambed Alteration Agreement that would otherwise be required by CDFG but for the Commission's exclusive(?) licensing authority. The applicant has eliminated Condition of Certification BIO-20, the condition containing the terms and conditions for the Streambed Alteration Agreement, in its entirety. No recommendations for replacement language have been suggested, and the applicant, without further explanation, has indicated that "mitigation is not required in the absence of a significant unmitigated impact."

Staff does not agree that project impacts to ephemeral drainages on the project site are less than significant. As described on pages 6.2-59 to 6.2-63 of the FSA/DEIS, staff has concluded that construction and operation of the ISEGS project would significantly fragment and degrade the beneficial functions and values that these state waters provide to wildlife. However, regardless of the significance of the impacts to state waters, Condition of Certification BIO-20 must remain as written because these terms and conditions are needed to satisfy requirements under Fish and Game Code Section

1602. Condition of Certification BIO-20 incorporates all required terms and conditions that would otherwise have been included in a Lake and Streambed Alteration Agreement if not for the Energy Commission's exclusive permitting authority that is "in lieu of" other state, local, and regional permits. Deleting BIO-20 would leave the FSA/DEIS out of compliance with state CDFG code.

Proposed Project Development Is Not a Temporary Impact

The applicant's testimony characterizes development of the Ivanpah Solar Electric Generating System (ISEGS) project as resulting in the "temporary loss of approximately 4,062 acres of habitat for variety of common and special-status wildlife species" and states that the site will not be lost in perpetuity, but rather will be restored at the end of the Right of Way grant. Staff would like to clarify that impacts from construction of the ISEGS project should be considered permanent, not temporary, for desert tortoise and other wildlife species, and for the native plant communities at the project site.

As described on pages 6.2-32 to 6.2-34 of the Final Staff Assessment/Draft Environmental Impact Statement (FSA/DEIS), construction and operation of ISEGS will profoundly alter the plant communities and wildlife habitat at the project site. Even with successful implementation of a revised and improved Closure, Revegetation and Rehabilitation Plan, staff believes that decades and possibly centuries would elapse before the project site would be sufficiently recovered to support the current densities of desert tortoise and other wildlife occupying the site. Staff considers it unlikely that the special-status plants and native plant communities at the site could ever achieve pre-project conditions in terms of plant species diversity and composition, cover, density, community structure, and soil characteristics. Staff therefore considers the impacts to the project area's biological resources to be permanent, and has recommended mitigation accordingly.

Staff Assesses Impacts to Desert Tortoise on the Basis of Range-Wide Distribution

Several intervenors, including Western Watersheds Project and Defenders of Wildlife, have stated concerns about the impacts of the project to desert tortoise populations within the Northeastern Mojave Recovery Unit. These intervenors also correctly point out an inconsistency in the FSA/DEIS, which is that impacts are occurring to desert tortoise within the Northeastern Mojave Recovery Unit, but the FSA/DEIS recommends BLM mitigation actions occur within the Eastern Mojave Recovery Unit. This recommendation stems from explicit guidance in the Northern and Eastern Mojave (NEMO) Desert Management Plan (BLM 2002). This guidance is appropriate for most of the NEMO area because the vast majority of it occurs within the Eastern Mojave Recovery Unit, but not for the Ivanpah Valley, which is in the Northeastern Mojave Recovery Unit.

Staff has revised Condition of Certification BIO-17 to specify that BLM's habitat acquisition and recovery actions should occur within the Northeastern Mojave Recovery Unit rather than the Eastern Mojave Recovery Unit, as follows:

BIO-17 To fully mitigate for habitat loss and potential take of desert tortoise BLM's compensatory mitigation plan, serving as one third of the 3:1 mitigation ratio required to satisfy CESA, would include acquisition of up to 4,073 acres of land within the Northe~~E~~astern Mojave Recovery Unit, or desert tortoise habitat enhancement or rehabilitation activities that meet BLM, CDFG, USFWS and Energy Commission approval, or some combination of the two.

Staff agrees with the conclusion in the Western Watersheds Project testimony and with testimony from other intervenors that the Ivanpah project would have significant direct, indirect and cumulative impacts to desert tortoise. However, the information provided in the Western Watersheds Project testimony and in the testimony of other intervenors has not changed staff's conclusion in the FSA/DEIS regarding significance of impacts to desert tortoise, or changed staff's mitigation recommendations, except for the revision described above. Staff has carefully reviewed and considered the detailed, thorough analysis provided by the Western Watersheds Project testimony, but does not believe that project impacts to the California portion of the Northeastern Mojave Recovery Unit constitute a basis for significance determinations. Energy Commission staff, CDFG and USFWS assess impacts to desert tortoise on a range-wide basis rather than on impacts to individual recovery units. While recovery units are a useful conservation tool, they are not an entity listed or recognized by state or federal endangered species acts. As described in Attachment 305f (Memo from USFWS Regional Director H. Dale Hall to Regional Directors, Recovery Units and Jeopardy Determinations under Section 7 of the Endangered Species Act, March 6, 2006) recovery unit impacts cannot be used by USFWS in developing jeopardy opinions during a Section 7 consultation, and staff has not used them as a basis for arriving at significance conclusions for this project's impact analysis or for developing mitigation recommendations.

Northern, Lower-Elevation Portions of I-15 Alternative Have Lower Potential for Supporting Special-Status Plants and Desert Tortoise

The Sierra Club's testimony challenges staff's conclusion in the FSA/DEIS that construction of the I-15 Alternative site would not differ substantially from the proposed project in terms of impacts to special-status plants and desert tortoise. The Sierra Club also points out that the FSA/DEIS did not identify the biologists who surveyed the I-15 Alternative or provide information about their survey methods. Staff has provided this information in the testimony of botanist Carolyn Chainey-Davis and wildlife biologist Richard Anderson.

Staff appreciates the extensive field work undertaken by the Sierra Club over a very short period of time in their efforts to provide additional information on the biological resources of the I-15 Alternative. However, staff has questions about the validity of

some elements of the methods used to assess desert tortoise densities. The Sierra Club biologists used a line-transect method to survey for desert tortoise burrows and other sign within approximately 316 acres of the I-15 Alternative, and approximately 233 acres within the proposed Project site. Exhibit 604 of the Sierra Club testimony shows the location of sampling locations, and is included here as **Rebuttal Testimony Figure 4** at the end of this testimony.

For the Sierra Club sampling method to reasonably represent desert tortoise habitat conditions and densities of the approximately 4,000-acre I-15 Alternative, the sampling units selected would need to be similar to habitat conditions throughout the site. Sierra Club offers no explanation as to how the sampling locations were selected, but a review of the USGS model for desert tortoise habitat in **Rebuttal Testimony Figure 5** indicates that at least the northernmost sampling unit is in some of the poorest desert tortoise habitat in the area, and is not representative of most of the desert tortoise habitat in the I-15 alternative. **Rebuttal Testimony Figure 5** is from information submitted by the applicant in August 2009 to address suitability of habitat at proposed desert tortoise translocation sites, and depicts the results of a USGS desert tortoise habitat model (Nussear et al. 2009) applied to the project site and surrounding areas. This model shows that much of the I-15 Alternative site is good quality desert tortoise habitat, consistent with the description of the site in the FSA/DEIS and in Richard Anderson's testimony. Based on the a review of **Rebuttal Testimony Figure 4** and **Rebuttal Testimony Figure 5**, the Sierra Club's northern sampling unit is located in one of the few patches of poor desert tortoise habitat present in the I-15 Alternative area. Furthermore, in reviewing **Rebuttal Testimony Figure 4** which shows the location of the Sierra Club survey areas, it appears that some or all of their northern sampling site may be outside of the boundaries of the I-15 Alternative surveyed by staff. As shown in Figure 6 from the Alternatives section of the FSA/DEIS (included as **Rebuttal Testimony Figure 2** in Section 1, Susan Lee's Rebuttal Testimony), the eastern boundary of the I-15 Alternative study area was shifted 1000 feet away from the freeway to avoid overlap with the proposed Joint Port of Entry Project, but the one of the Sierra Club sampling areas was placed immediately adjacent to the freeway.

With respect to special-status plants, the northern sampling unit immediately adjacent to the freeway may also have skewed the Sierra Club conclusions on special-status plants. This sampling location has been placed at one of the least representative locations for the I-15 Alternative for special-status plants. The highway is not the influencing factor in vegetation for most of the I-15 Alternative roadside weeds and disturbance typically extends only a few hundred feet from the edge of pavement.

The northern sampling location was also located within the lower elevations of the I-15 Alternative, which diminishes the potential for special-status plants. The testimony of Ms. Chainey-Davis provides details as to why the potential for special-status plants decreases as elevation decreases as the terrain slopes down to the dry lake. Her testimony describes a trend of decreasing plant diversity as the terrain slopes toward the playa and the washes abate into the landscape. At these lower elevations, changes in soil texture, salinity and drainage properties drive the changes in plant cover and

reduces the potential for special-status plants. The higher elevation habitat within the I-15 Alternative, above approximately 2,800 feet, has considerably higher potential to support special-status plants compared to the lower elevations to the north.

While staff does not necessarily agree with all of the methods Sierra Club used to arrive at their conclusions about the suitability of the I-15 Alternative site for desert tortoise and special-status plants, staff is in agreement that portions of the I-15 Alternative could provide a better alternative site for some of the ISEGS project development. Construction on approximately 1,500 acres east of Ivanpah 1, below the 2,800 foot elevation contour line (see **Rebuttal Testimony Figure 6** at the end of this testimony), would likely result in far fewer impacts to special-status plants and other sensitive plant communities. Similarly, the lower elevation portions of the I-15 Alternative near the Primm Golf Course provide relatively low quality habitat for desert tortoise, and construction here rather than on the ISEGS site might substantially reduce impacts to desert tortoise.

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SECTION 3. TESTIMONY OF MISA MILLIRON

BIOLOGICAL RESOURCES: SPECIAL-STATUS PLANTS

TOPICS FROM THE APPLICANT'S TESTIMONY

The applicant's testimony rejects staff's proposed mitigation by avoidance of special-status plants as infeasible, but this basis for rejection is based on a misreading of staff's testimony. The applicant's testimony states "Complete loss of significant portions of Ivanpah 1 and 3 such as that suggested in FSA/DEIS Biological Resources Figure 2 is not possible without compromising design to an unacceptable level." Figure 2 is included here as **Rebuttal Testimony Figure 7** at the end of this section. To clarify the text on this figure, the dotted areas marked "A" indicate areas of high special-status plant density and diversity *within which* avoidance areas could be designated and achieve greater protection compared to areas of low density. Staff made no recommendations as to the specific project reconfiguration that might occur because information on the applicant's engineering constraints is lacking. However, staff's intent was for the applicant to select areas within these dotted areas that would be protected from development, preferably preserving areas along the edges of the project, contiguous with the adjacent, undisturbed habitat rather than imply the absence of project facilities in the entirety of the dotted areas.

Applicant's Changes to BIO-18, Special-Status Plant Impact Avoidance and Minimization, Fail to Provide Assurances for Long-Term Protection and Remedial Measures

The applicant proposed to delete all of Biological Resources Condition of Certification BIO-18, Special-Status Plant Impact Avoidance and Minimization, and replace it with language suggesting that special-status plant protection areas would be protected during construction but not necessarily during operation. Staff's condition for Special-Status Plant Protection Areas would require plants to be buffered from project-related disturbance during both construction and operation, while the applicant's proposal would protect "core" areas with temporary fencing during construction only. The applicant's proposed revisions would also eliminate without replacement the following elements: goal for special-status plant protection efforts, remedial actions (including seed collection, replacement planting, surveys on acquired and public lands) in the event that mitigation fails, and a security sufficient to implement the mitigation. In addition, the applicant's revisions would provide a substantially reduced mitigation monitoring period compared to staff's condition of certification.

The applicant's proposed revisions are unacceptable because they diminish the protection of special-status plants in the project area by eliminating protection of special-status plants from impacts during operation of the facility, a mitigation goal, and remedial actions. A remedial action plan is essential to adapt to unanticipated mitigation failures, maximize the success of mitigation, and reduce cumulative losses to the species. The applicant's revised condition of certification fails to provide sufficient

details on measures that are likely to assure long-term viability of special-status plants within the project site. Applicant's proposal has no mechanism to assure long-term impact avoidance and protection of special-status plants while operation and maintenance activities are taking place in proximity to the special-status plants. The actions proposed in and adjacent to protected areas of special-status plants are also unclear. Staff's condition of certification would avoid impacts and assure protection by prohibiting development and other project-related activities in protected areas. Assurances of adequate funding in the form of a security also need to be provided to implement the required avoidance and minimization measures and to monitor compliance with and the effectiveness of the measures. Applicant's proposal for only three years of monitoring, particularly in the desert environment, is insufficient (Sutter 1996, Bainbridge 2007).

At the FSA staff workshop on December 15, 2009, the applicant presented a conceptual special-status mitigation approach (including a draft avoidance map) that described avoidance and protection of some high-density plant clusters scattered throughout the project site. Staff's understanding is that the applicant proposes that operations and maintenance activities consistent with those occurring at the rest of the site (e.g., mirror washing and vegetation moving) will occur within areas designated as "avoidance areas," which would contain heliostats and little if any buffer around the special-status plants. The applicant's development of this conceptual mitigation proposal is ongoing at present, so its details have not yet been provided.
Staff is encouraged to see that the applicant is working on a special-status plant mitigation plan and welcomes the opportunity to review it, but until specifics are developed, staff cannot comment on the conceptual plans in detail. Meanwhile, all the elements of staff's Condition of Certification BIO-18 should be adopted by the Commission, with corrections discussed later.

Staff's initial concerns with the applicant's special-status plant avoidance draft concept overlap with those expressed in the opening testimony of the California Native Plant Society (CNPS), namely the following potential effects: shading effects on plant reproduction, altered hydrology, soil compaction, direct disturbance from regular maintenance, weed introduction, and fragmentation of occurrences (including potentially restricted pollination and dispersal). Staff is unaware of similar, successful mitigation efforts on the management of solar fields or any other large-scale development project as special-status plant protection areas in the California desert. In general, the scattered nature of the applicant's proposed protection areas creates significant challenges to establishing defensible boundaries from surrounding disturbance, and could make it infeasible to protect the special-status plants from significant indirect impacts (i.e., from introduction and spread of non-native plants, alterations of the local hydrology, higher than normal dust levels, etc.).

Staff's Minor Corrections to BIO-18

While staff has not accepted the applicant's proposed changes to BIO-18 for the reasons described above, staff suggests the following minor changes to correct an inadvertent truncation and typographical error by staff.

From Condition of Certification BIO-18:

8. Gas Pipeline Revegetation and Monitoring: In the natural gas pipeline construction corridor where disturbed soils will be revegetated, the topsoil excavated shall be segregated, kept intact, and protected, under conditions shown to sustain seed bank viability. At a minimum, the top 2 cm of the soil shall be separately stored and preserved. Topsoil salvage, storing, and replacement shall be replaced in its original vertical orientation following pipeline installation ensuring the integrity of the top 2 cm in particular. The project owner shall prepare a Gas Pipeline Revegetation and Monitoring Plan targeted at re-establishment of Rusby's desert-mallow, desert pincushion, Mojave milkweed, and potentially other special-status plant species. The Gas Pipeline Revegetation and Monitoring Plan shall identify success criteria for re-establishment and shall continue for a period of no less than 10 years until the defined success criteria are achieved. The Gas Pipeline Revegetation and Monitoring Plan shall include measures for seeding or other remedial actions. If no individuals of Rusby's desert-mallow, desert pincushion, or Mojave milkweed, are located during the first year of monitoring, the project owner shall conduct supplemental seeding or other remedial measures in the area disturbed by natural gas pipeline installation.

From the Verification:

Within 30 days of the start of construction, the project owner shall submit ~~a~~ copy~~y~~ies of the contract with the CPM-approved seed contractor and the check for seed collection and curation fees to the CPM.

Topics from California Native Plant Society Testimony

Staff agrees with the conclusion presented in the CNPS testimony that the Ivanpah project will cumulatively impact special-status plant species. CNPS recommended an expansion of the pre-construction survey area called for in BIO-18 to include the entire project site. Staff believes that such a requirement goes beyond the purpose of the condition requiring pre-construction surveys: to refine the boundaries of the special-status plant protection areas and ensure adequate protection of plants within them, rather than revise the estimates of plant numbers that would be lost as established by the applicant's two previous survey efforts. Staff considers the applicant's surveys adequate to account for and estimate the number of special-status plants lost due to construction and therefore is not recommending additional surveying of special-status plants in non-protected areas. It is staff's understanding that a re-survey of the full footprint may not be feasible for the applicant to accomplish without significant delay in construction.

CNPS also points out that assuring meaningful mitigation for the project's special-status plant impacts should involve conducting surveys on private lands to identify additional off-site populations and placing them under conservation easements prior to construction. Staff agrees that if such surveys and protection were feasible, this could be an effective means of compensating for the project-related losses of special-status plants. However, staff anticipates significant challenges to implementing this mitigation because of difficulties securing access to private lands for surveys and locating lands that contain sufficient numbers/acreage of all special-status plant species of concern. However, staff welcomes a more specific proposal or guidance and suggestions on how to address these and other feasibility concerns, which led staff to reject this mitigation approach in the FSA/DEIS in favor of that described in BIO-18.

Topics from Sierra Club Testimony

Sierra Club's testimony stated that the impacts to small-flowered androstephium (*Androstephium breviflorum*) should be considered significant under CEQA because a large percentage (85%) of the occurrences documented in the California Department of Fish and Game's California Natural Diversity Database (CNDDB) are threatened by development (solar energy projects and Fort Irwin expansion). Sierra Club noted that the project's impacts on the species could result in a potential elimination of all documented occurrences in the Ivanpah Valley. Staff based the analysis of significance regarding this species on an increasing occurrence trend (i.e., many new occurrences have been found in recent years as compared to the other species). This trend implied that the species may be somewhat more common in the state than previously thought. This reason, combined with a relatively large total number of documented occurrences, led staff to conclude that the project effects to small-flowered androstephium are less than significant. However, in this appraisal staff did not consider the high level of development threat to the majority of off-site occurrences and the lack of other documented occurrences in the Ivanpah Valley that are not within proposed development areas. In consideration of this information, staff concurs with the Sierra Club conclusion that without mitigation the project's impacts to small-flowered androstephium are potentially significant in a CEQA context.
Staff has added small-flowered androstephium to those species prioritized in Condition of Certification BIO-18 and its verification as follows:

1. On-Site Plant Avoidance/Minimization Areas: To the extent feasible the project owner shall avoid and minimize disturbance to all special-status plant species within the project site. Impact avoidance and minimization efforts shall occur in all feasible locations but shall focus in particular on areas depicted in **Biological Resources Figure 2** that indicate the highest densities of Mojave milkweed, Rusby's desert-mallow, desert pincushion, nine-awned pappus grass, and Parish's club-cholla. The highest priorities for protection shall be small-flowered androstephium, Mojave milkweed, desert pincushion, and Rusby's desert-mallow. The project owner shall implement all feasible impact avoidance and minimization measures within the following areas:

a. ISEGS 1 and 3: Reconfigure project features to the extent feasible within the northern portions of ISEGS 1 and 3 to avoid areas that support the highest density and diversity of special-status plant species.

b. Construction Logistics Area: Reconfigure the layout and design of the Construction Logistics Area to maximize protection of high density and diversity special-status plant areas.

c. Natural Gas Pipeline: Adjust the alignment of the proposed 75-foot wide natural gas pipeline and narrow the construction footprint to avoid special-status plant occurrences north of ISEGS 3.

2. Protection Goals : The project owner shall implement all feasible measures to protect 75 percent of the individuals of small-flowered androstephium, Mojave milkweed, Rusby's desert-mallow, desert pincushion, nine-awned pappus grass, and Parish's club-cholla within the project area (as mapped in Figure 5-3 of the applicant's final botanical survey report [CH2M Hill 2008x]). Each year during construction the measurement of percent protection achieved shall be calculated based on a comparison of numbers of individuals of each of these five species present in this area identified before construction compared to numbers remaining post –construction. These pre- and post-construction plant numbers shall be based on floristic surveys conducted by a qualified botanist.

3. Seed Collection : Implementation of the Special-Status Plant Remedial Action Plan would require a source of local source of seeds/propagules. In addition, seed collection would serve to preserve germplasm in the event that all mitigation fails. The project owner shall develop and implement a Seed Collection Plan to collect and store seed for small-flowered androstephium, Mojave milkweed, Rusby's desert-mallow, desert pincushion, nine-awned pappus grass, and Parish's club-cholla. The source of these seeds shall be from plants proposed for removal within the project footprint. The project owner shall engage the services of a qualified contractor approved by the CPM to undertake seed collection and storage.

4. Surveys on Acquired and Public Lands: The project owner shall conduct floristic surveys for Rusby's desert-mallow and Mojave milkweed on all lands that will be acquired as part of the desert tortoise compensatory mitigation requirements (see Condition of Certification **BIO-17**). Similar surveys shall be conducted for small-flowered androstephium, desert pincushion, nine-awned pappus grass, and Parish's club-cholla for those species for which the 75 percent on-site avoidance goal has not been achieved. The goal of the surveys shall be to identify at least the same number of occurrences on off-site lands as were impacted by the ISEGS project. If this goal is not met by surveys on proposed acquisition lands,

additional surveys shall be conducted within suitable habitat on public lands until the same number of occurrences of each species that were impacted are identified. To be counted toward fulfillment of the goal the occurrences must reflect new data not previously documented in other survey efforts. The survey requirements shall include the following:

Verification:
On January 31st of each year following construction the project owner's qualified botanist shall submit a report, including CNDDB field survey forms, describing the results of off-site plant surveys to the BLM's authorized officer, the CPM, CDFG, and CNDDB. Submittal of survey reports shall continue until the same number of occurrences impacted by the project for Rusby's desert-mallow and Mojave milkweed are identified on these off-site lands as were impacted by the project. Similar reports shall be submitted for small-flowered androstephium, desert pincushion, nine-awned pappus grass, and Parish's club-cholla for each of ~~three~~ those species for which 75 percent avoidance was not achieved. For each of the species for which surveys were conducted, the project owner's qualified botanist shall submit a completion report documenting fulfillment of the target goals and which describe the number of new, previously undiscovered occurrences identified and mapped using GIS techniques for each species. Mapping results shall include GPS coordinates of the plants found.

Rebuttal Testimony Figures 8 through 10 provide maps of the California distribution of documented occurrences for all six special-status plant species, including small-flowered androstephium, for which impacts are considered potentially significant in a CEQA context. Rebuttal Testimony Figures 8 and 9 were previously included in the FSA/DEIS as Biological Resources Figures 1A and 1B. Staff prepared **Rebuttal Testimony Figure 11** to illustrate Sierra Club's concern regarding cumulative impacts to small-flowered androstephium (and to other special-status plant species as noted by CNPS) and the potential for its local extirpation from the Ivanpah Valley.

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Sutter, R.D. 1996. Monitoring. In: D.A. Falk, C.I. Millar, and M. Olwell, eds. Restoring Diversity: Strategies for Reintroduction of Endangered Plants. Island Press, Washington, DC.

SECTION 4 OF ENERGY COMMISSION STAFF REBUTTAL

TESTIMONY OF RICHARD ANDERSON: BIOLOGICAL RESOURCES

ANALYSIS OF ISEGS ALTERNATIVES FOR WILDLIFE

There have been two alternative sites proposed for the Ivanpah Solar Energy Generation Systems (ISEGS) project. This report evaluates and compares the habitat quality for desert tortoise specifically and wildlife in general of the proposed Ivanpah site and the two alternative sites, I-15 alternative and Private Lands alternative.

SURVEYS

Reconnaissance surveys were conducted on 15 August, 2009 at the proposed ISEGS project site and the I-15 alternative site. The I-15 alternative site is adjacent to the ISEGS and the I-15 freeway and although the I-15 alternative is not clearly defined, using the maps available, the two sites appear to overlap each other by approximately 25%. The private land alternative is located approximately 15 miles east of Barstow also adjacent to I-15. A reconnaissance survey was conducted on 16 August, 2009 on the private land alternative.

Reconnaissance surveys included visiting representative samples of habitat throughout the proposed and alternative sites. Access was good and small roads allowed visitation throughout the sites. The biologist stopped often to examine the surrounding habitat for quality and evidence of wildlife activity. Field forms were completed which rated micro-relief, soil texture, vegetation, ground cover, plant diversity, likelihood of desert tortoise occurrence, likelihood of special status species occurrence, quality of surrounding habitat, special features and overall quality of habitat for wildlife and desert tortoise. Pictures were taken of the habitat and field notes taken. California Natural Diversity Data Base information was compiled for the three sites and used to inform the field observer prior to the surveys.

HABITAT

Mojave creosote bush scrub and Atriplex scrub are the two dominate vegetation types at the ISEGS and alternative sites. On the private lands alternative there are also some areas dominated by fallow agricultural areas, ruderal (weedy) areas, and development. All three sites provide forage, cover, roosting, and nesting/denning habitat for a variety of wildlife species, but the private lands alternative is significantly reduced in value compared to the other two sites. The habitat quality was rated low, medium, or high with focus on desert tortoise. If the habitat was determined to be unsuitable for desert tortoise it was not rated (received a zero).

- **Unsuitable** quality habitat includes areas of low vegetative diversity (mostly non-native vegetation), non-friable soils, highly disturbed, highly fragmented, actively farmed, trash laying around, in close proximity to development and heavily overgrazed.

- **Low** quality habitat includes areas of low-to- moderate vegetative diversity with mostly native shrub vegetation, friable soils, some micro-relief, moderate fragmentation, little human activity, no adjacent development, and over grazed lands.
- **Medium** quality habitat includes areas of moderate –to-high native vegetative diversity, mature/maturing shrubs, very minor human activity, minor fragmentation such as small dirt roads with little traffic, friable soils, well developed micro relief and moderately to little grazing. Without grazing, some good habitat could be of excellent quality.
- **High** quality habitat includes areas of high native vegetative diversity, mature shrubs, well developed micro-relief, friable soils, little to no fragmentation, no nearby development, low or no recent grazing and little human activity.

IVANPAH SOLAR ENERGY GENERATING SYSTEMS SITE

The proposed ISEGS would be located in high quality relatively undisturbed desert tortoise habitat (creosote bush scrub) with a few small dirt roads. Although the habitat/plant community varies somewhat with elevation, slope, and soils throughout the ISEGS it is all high quality tortoise habitat. Figure 5.29 in the AFC shows the results of the applicant's desert tortoise surveys. Desert tortoises and tortoise sign were detected fairly evenly throughout the ISEGS. It is anticipated that the ISEGS also provides high quality habitat for other special status species that are known to occur in the area. There is evidence of light grazing throughout the site.

I-15 ALTERNATIVE SITE

The I-15 alternative site is high quality, relatively undisturbed habitat (creosote bush scrub) for desert tortoises. There is evidence of light grazing throughout the site with one small area (old corral) that was highly disturbed. Although the habitat/plant community varies somewhat with elevation, slope, and soils throughout the I-15 alternative site it is all high quality tortoise habitat. It is anticipated that the I-15 alternative also provides high quality habitat for other special status species that are known to occur in the area. There is very little difference in value for desert tortoise and other special status species between the ISEGS and I-15 alternative site. It is difficult to value either site higher than the other. It is possible that if the ISEGS site is developed the I-15 alternative site may be disturbed as a result of the high profile of the solar facility, its' attractiveness to humans and its' position between I-15 and the proposed ISEGS. Conversely, if the I-15 alternative site was developed, the portions of the proposed ISEGS site that are farther from I-15 may not experience similar additional human activity, but this is speculation.

PRIVATE LANDS ALTERNATIVE

The Private Lands Alternative site is located in habitat of varying quality for desert tortoises. Although the habitat/plant community varies somewhat with elevation, slope, and soils, many areas have been heavily disturbed and some are actively farmed. Portions of the site are unsuitable for desert tortoises and other portions range between

low and medium quality habitat for desert tortoise. It is anticipated that the private lands alternative also provides unsuitable to medium quality habitat for other special status species that are known to occur in the area.
The Mohave River is located approximately one-half mile from the site. There are patches of well developed riparian habitat and areas of no and poorly developed riparian habitat. The proximity of the river to the project site would most likely result in more bird activity than at the ISEGs site, but this higher activity would not be likely to result in significant impacts. This site is of much less value to desert tortoise than the ISEGS and I-15 sites.

RESULTS

Habitat values for wildlife resources at the ISEGS and I-15 alternative sites are very similar, both having high quality desert tortoise and wildlife habitat. The private lands alternative site has varying habitat quality for desert tortoise and wildlife and is generally made up of unsuitable to medium quality habitat. The private lands alternative is preferred over the ISEGS and the I-15 alternative site for development. Table 1 displays the results of the comparison.

TABLE 1. Ivanpah Site Alternatives Comparison---Desert Tortoise															
	ISEGS						**I-15 Alternative**				**Private Lands Alternative**				
	1	2	3	4	Total	1	2	3	4	Total	1	2	3	4	Total
Topography	3	3	3	3	12	3	3	3	3	12	2	2	2	2	8
Soil Texture	3	3	3	3	12	3	3	3	3	12	3	2	3	3	11
Dominant Shrub	3	3	3	3	12	3	3	3	3	12	2	2	2	3	9
Herb Cover	-	-	-	-		-	-	-	-		-	-	-	-	
Plant Diversity	2	3	2	2	9	2	2	2	3	9	1	1	1	2	5
Tortoise Likely	3	3	3	3	12	3	3	3	3	12	1	1	1	2	5
Special Status Species Likely	3	3	3	3	12	3	3	3	3	12	1	1	2	2	6
Quality of Surrounding Habitat	3	3	3	3	12	3	3	3	3	12	1	1	1	2	5
Overall Habitat Quality for Wildlife	3	3	3	3	12	3	3	3	3	12	2	1	2	2	7
Overall Habitat Quality for Tortoise	3	3	3	3	12	3	3	3	3	12	1	1	1	2	5
Total Quality	26	27	26	26	**105**	26	26	26	27	**105**	14	12	15	20	**61**

Appendix A

INSTRUCTIONS: SITE QUALITY COMPARISON FORM-DESERT TORTOISE

Date: Month/Day/Year
Project: Project name (original or alternative)
Field observer: Initials or full name
Location: Briefly describe in words (alternative site at railroad and Howard Street) plus coordinates in either latitude/longitude or Universal Transverse Mercator (UTM).
Elevation: In feet above mean sea level (MSL)
Rating: The following habitat characteristics are rated low, medium, and high depending on the quality of the habitat and the capability to support desert tortoises. Other special status species are also taken into consideration for overall habitat value/quality. Scores are derived from the qualitative ratings. Low = 1, medium = 2, and high = 3. This allows for a qualitative numeric comparison of alternative sites.
Topography: Includes considerations such as flat, sloping, steep, undulating landscape and also micro-relief such as hummocks at the base of shrubs such as creosote bushes and washes. Professional judgment is used to estimate the compatibility of the topography for desert tortoise.
Soil texture: Includes considerations such as whether the soil is sandy, sandy/soil, sandy /soil/pebbles, pavement, rocky and whether the soil is friable.
Dominant shrubs: Includes considerations such as the shrub, maturity, height, density, and overall quality of the shrub habitat.
Herb Layer: Includes considerations such as types of plants, native species, nonnative species, density, dominant plant(s), and overall quality of the herb layer to support desert tortoise.
Plant Diversity: Includes considerations such as the species richness of the habitat. Greater diversity can mean higher quality habitat for more wildlife species.
Likelihood of desert tortoise occurrence: Includes consideration of the above physical features and plant associations and the knowledge that the area is within desert tortoise habitat to estimate desert tortoise likelihood of occurrence.
Likelihood of other special status species occurrence: Includes consideration of the above physical features and plant associations and the knowledge that special status species occur in the area.
Quality of surrounding habitat: Consideration of surrounding habitat is an important consideration because large areas of habitat in relatively undisturbed condition are better than having the neighboring section of land be highly disturbed. Surrounding here means the adjacent sections of land. This has to do with fragmentation and sink/source considerations.
Overall habitat quality for wildlife: Includes consideration of the wildlife habitat value on the site under consideration plus the surrounding area.
Overall habitat quality for desert tortoise: Includes consideration of the desert tortoise habitat value on the site under consideration plus the surrounding area.

Site Quality Comparison Form---Desert Tortoise					
Date:			Project:		Surveyor:
Location:				Elevation:	
	Flat	Sloping	Steep	Micro-relief	Overall Quality
Topography					
	Sandy	Sandy/soil	Sandy/soil/rocks	Rocky (pavement)	Friable
Soil Texture					
Dom. Veg. shrubs	Name	Maturity	Height	Density	Overall Quality
	Native%	Non-native%	density	Dominant Plant	Overall Quality
Ground Cover					
Plant Diversity	Low	Medium	High		Overall Div.
Desert Tortoise Likelihood	Low	Medium	High		Overall Likelihood
Other Special Status Species Likelihood	Low	Medium	High		Overall Likelihood
List:					
Quality of Surrounding Habitat	Low	Medium	High		Overall Quality
Special Features:					
Overall Habitat Quality for Wildlife	Low	Medium	high		Overall Quality
Overall Hab. Quality for Desert Tortoise	Low	Medium	High		Overall Quality

SECTION 5 OF ENERGY COMMISSION STAFF REBUTTAL

TESTIMONY OF CAROLYN CHAINEY-DAVIS: BIOLOGICAL RESOURCES

ANALYSIS OF THE I-15 ALTERNATIVE FOR SPECIAL-STATUS PLANTS

Methods

On August 15, 2009, Carolyn Chainey-Davis conducted a field survey of the I-15 Alternative site to assess its potential to support special-status plants. The assessment was based on observations of nearby reference populations to make site-specific comparisons between habitats known to support special-status plant taxa and those found within the proposed I-15 Alternative. The use of reference populations for obtaining an accurate visual image of the target species' associated habitat, habitat and microhabitat, topographic features, hydrology, soil type, texture, and soil parent material are emphasized in the CNPS, CDFG, and USFWS botanical survey guidelines (CNPS 2000, CDFG 2009; USFWS 1996). Staff used the following habitat characteristics to assess the potential for Rusby's desert mallow; Mojave milkweed; nine-awned pappus grass, desert pincushion, and Parish's club-cholla to occur in the I-15 Alternative:

- **Hydrology and topographic features -** presence/absence and abundance of desert washes, rocky outcrops, position above the playa [elevation], position on the alluvial fan, proximity to Clark Mtns, and microtopographic complexity;

- **Soil type, texture, and soil parent material -** carbonate substrates, coarse rocky/gravelly vs. fine-textured soils, sandy washes vs. rocky interfluves or outcrops, alluvium vs. residual soils, consolidated vs. unconsolidated or poorly consolidated;

- **Plant community and species composition -** [dominant and associated species, and cover density, which are in part a reflection of the microhabitat parameters described above;

- **Habitat disturbance and abundance of invasive species**

Staff also noted the occurrence of other sensitive botanical resources, such as ephemeral washes and desert wash woodland, and used high resolution aerial photos to assess the distribution and abundance of washes and desert wash woodland.

Data collection designed to provide highly accurate estimates of vegetation cover density were not conducted as such data is not a good predictor of special-status plant potential, relative to the habitat characteristics described above. Ocular estimates of percent vegetation cover were made based on calibration with sample cover density charts.

Prior to the field assessment, staff conducted a pre-field review of the applicant's botanical report (Supplemental Data Response Set 1D. Attachment BR3-1A, Botanical Resources), project vicinity aerials, soil surveys, and a literature and database review of the affected species. The applicant's special-status plant spatial data (location data) was downloaded into a GPS unit and Staff navigated back to 8 special-status plant occurrences within the ISEGS project site near the proposed I-15 Alternative to observe microsite conditions that characterized each special-status plant occurrence. These microsite conditions were then compared to those within the I-15 Alternative. **Rebuttal Testimony Figure 12** at the end of this testimony depicts the locations of the reference site visits within the Ivanpah project area, and the sites visited within the I-15 Alternative.

We conducted a comparison of habitat characteristics found within the I-15 Alternative across a range of elevations from the lower elevations surrounding the Primm Golf Course at the northern end of the I-15 Alternative, to the highest elevations at the southern limit, collecting data at each of 11 points (**see Rebuttal Testimony Figure 12** for the location of these points). At each data point, staff made a comparison of the relevant habitat characteristics described above to those found within the I-15 Alternative site. A total of 86 photos were taken between the adjacent reference sites and the data points within the Alternative. Staff also conducted a qualitative comparison of conditions at reference sites to conditions along all access roads contained within the I-15 Alternative.

Due to survey timing, the analysis was based on a habitat assessment of the potential of the I-15 Alternative to support special-status plants and did not include comprehensive field surveys for presence/absence of special-status plants. Potential for the I-15 Alternative to impact special-status plants was based on an assessment of the potential of the site to support special-status plants. Impacts of the I-15 Alternative to ephemeral desert washes and wash vegetation was based on a review of the actual distribution and abundance of these sensitive resources on current, high resolution aerial photos and on field observations.

Conclusions

The length of the I-15 Alternative follows a transect that spans a north-to-south elevational gradient ranging from approximately 2,650 feet at the northeast corner, near the golf course, to a high point of 3,350 feet at the southeast corner near Nipton Road exit, at the base of the Clark Mountains. The ISEGS project spans a similar range of elevations in Ivanpah Valley but with a lower limit of approximately 2,750 feet. Interstate 15 is not the topographic low point within the I-15 Alternative; rather, the Primm Golf Course at the northern boundary represents the elevational low point.

The I-15 Alternative consists entirely of creosote bush scrub; however, there are fine scale variations on the co-dominant and associated species that reflect elevation, position above the playa, substrate conditions, and density of washes. These fine-scale

“associations” are not easily discerned on the aerial photos but in the field we observed a transition in the quality of the habitat (i.e., the similarity to conditions known to support special-status plant taxa and thus the potential to support special-status plants) based on the elevation above the playa or valley floor. Using a GPS to provide elevation data, we observed a transition in habitat composition, soils, hydrology, and microtopography between approximately 2, 700 and 2,750 feet. Changes in plant communities around playas are generally driven by soil salinity, position above the water table, soil texture and drainage properties. In Ivanpah Valley, the shift in the habitat characteristics is also due to surface hydrology and position on the bajada (e.g., toe slope versus upper bajada at the base of the Clark Mtns). Coarse, rocky, carbonate soils dominate the upper positions; finer-textured alluvium dominates the toe slopes. At the 2,700-2,750-foot elevation, many of the ephemeral washes abate in the landscape, the topography flattens, there is a lreduction in species diversity, vegetative cover is more open, and cacti and succulents completely drop out of the species composition.

The same observation of a shift in the habitat characteristics relative to elevation above the valley floor has been made independently by the applicant’s consultants (Supplemental Data Request 2J, Attachment BR-5-2A, Vegetation Surveys for Potential Relocation and Translocation Areas). Vegetation surveys conducted west and southwest of ISEGS found the same positive correlation of increased plant species richness and diversity with elevation. Garcia and Associates botanists also noted a shift in the habitat at the 2,700-foot elevation in their 2007-2008 botanical survey report. (Supplemental Data Response Set 1D. Attachment BR3-1A, Botanical Resources).

The presence and abundance of non-native plants is not related to elevation or position above the playa but instead correlates with a history of soil disturbance and the proximity to weed vectors. More specifically, non-natives are more prevalent adjacent to the golf course, highway, substation, and heavily used roads. Undisturbed portions of the Ivanpah bajada are relatively free of invasive exotics, despite the presence of a grazing allotment. Overall, the effects of the grazing throughout the area encompassing ISEGS and the I-15 Alternative are minor (relative to more heavily grazed sites, such as those found within the Private Land Alternative).

The southern portion of the I-15 Alternative contains an abundance of desert washes, including two primary features that also support a microphyll woodland—or desert dry wash woodland [a riparian community type] of catclaw acacia, desert willow, and other desert wash trees and shrubs. This is also clearly visible on aerial photos available on Google Earth as well as the higher resolution aerials used in the analysis. Desert wash woodland is a sensitive plant community recognized by CNDDB, regulated by CDFG under CA Fish and Game Code, and a NECO [BLM] sensitive community.

The ISEGS special-status plant survey was limited to the area currently shown as the boundaries of the project footprint. Within the ISEGS project area, special-status plants are distributed in clusters of high density in Ivanpah 3 (near the base of the eastern extension of the Clark Mountains), and in the northern third of Ivanpah 1, at elevations down to approximately 2,800 feet. There was a particular abundance of nine-awned

pappus grass on the Kern River pipeline connector at the base of those mountains, as this special-status species prefers rocky carbonate substrates; however, Mojave milkweed, a species associated with sandy washes, and one of the two species of greatest concern, is distributed throughout Ivanpah 3, the Logistics area, and Ivanpah 1, down to elevations of approximately 2,800 feet.

Based on a GIS analysis of the I-15 Alternative, 3,122 acres occur above 2,800 feet elevation, which corresponds roughly to the elevation above which a transition was observed in important habitat characteristics relevant to the special-status plants found in the project vicinity (see **Rebuttal Testimony Figure 6** at the end of Section 2, Testimony of Susan Sanders). Specifically, there is a noticeable shift from habitat that includes the important microhabitat characteristics associated with the special-status plants (as observed in the nearby reference populations), to habitat where most or all of these characteristics drop out: many of the ephemeral washes abate in the landscape, the topography flattens, there is a lowering of species diversity, a shift in the plant community at the association level, vegetative cover is more open, and cacti and succulents completely drop out of the species composition.

There is a narrow strip of land between the frontage road and the eastern boundary of the I-15 Alternative, parallel to the highway, which is degraded by the edge effects of highway construction, maintenance, and an abundance of weeds and weed vectors. There is also a small disturbed area that contains a staging area for the grazing allotment. However, the portion of the I-15 Alternative above the 2,700 to 2,800-foot elevation transition zone that is disturbed/degraded area is small relative to the 3,000 or more acres of good to high quality habitat.

Based on the methods described above for our field analysis of the potential I-15 Alternative to support special-status plants, staff concludes that the construction of the I-15 Alternative would likely result in significant impacts to special-status plants and other sensitive botanical resources for the following reasons:

- The I-15 Alternative contains over 3,000 acres of high quality habitat that is essentially identical--and adjacent---to similar habitat supporting an abundance and diversity of special-status plants on the ISEGS project. This habitat exhibits the same soil textures, parent materials, sandy washes, rocky interfluves, and other microhabitats associated with the 15 reference populations within the Ivanpah project site, and which were associated with high densities of special-status plants.

- The southern portion of the I-15 Alternative also includes an abundance of desert washes, and desert wash woodland (a sensitive and regulated plant community) is found along the larger drainage features.

The analysis was based on the assumption that the entire I-15 Alternative would be utilized for heliostat fields and other project components. The FSA did not include an assessment of any subset of the I-15 Alternative but noted (and described above) that

the habitat was of a poorer quality at the lower elevations in the northern portion of the Alternative (1,528 acres surrounding and proximal to the golf course).

These conclusions are based on an analysis of habitat suitability for special-status plants; this assessment should be confirmed by special-status plant surveys in spring 2010.

REFERENCES:

CDFG. 2009. Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities. California Natural Resources Agency, Department of Fish and Game. November 24, 2009

CH2M Hill. 2009. CH2M HILL/J. Carrier (tn 52819). Supplemental Data Responses, Set 2I, Attachment BR5-2A, Vegetation Surveys for Potential Relocation and Translocation Areas. Dated August 10, 2009. Submitted to CEC/J. Kessler on August 10, 2009.

CH2M Hill. 2008. Supplemental Data Response Set 1D. Attachment BR3-1A (tn: 48188), Technical Report: Botanical Resources September 2008, submitted to California Energy Commission Docket Unit on September 25, 2008.

CNPS. 2001. California Native Plant Society Botanical Survey Guidelines. Sacramento, CA. December 9, 1983, revised June 2, 2001.

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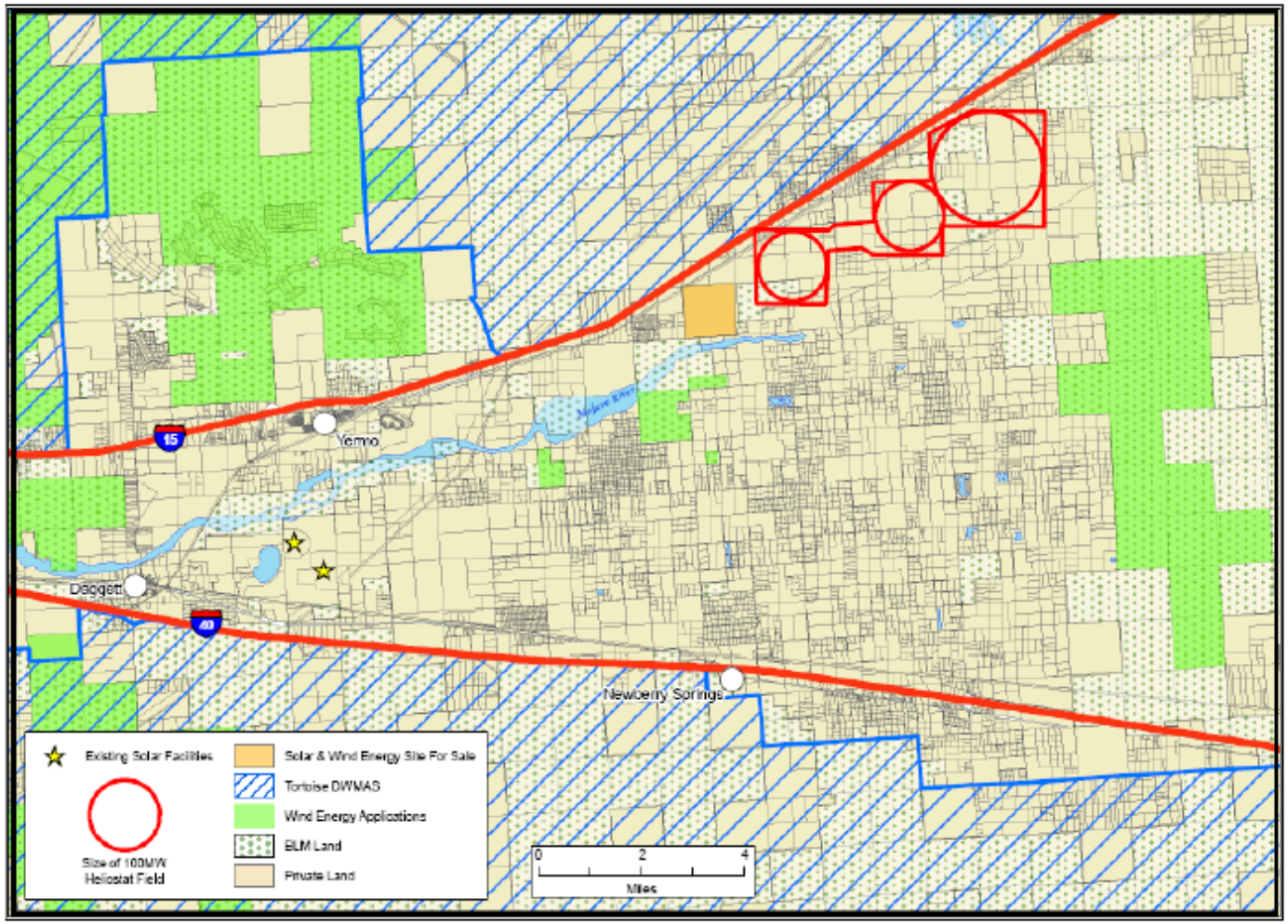
Rebuttal Testimony - Figure 1

ALTERNATIVES - FIGURE 5A
ISEGS - Private Land Alternative

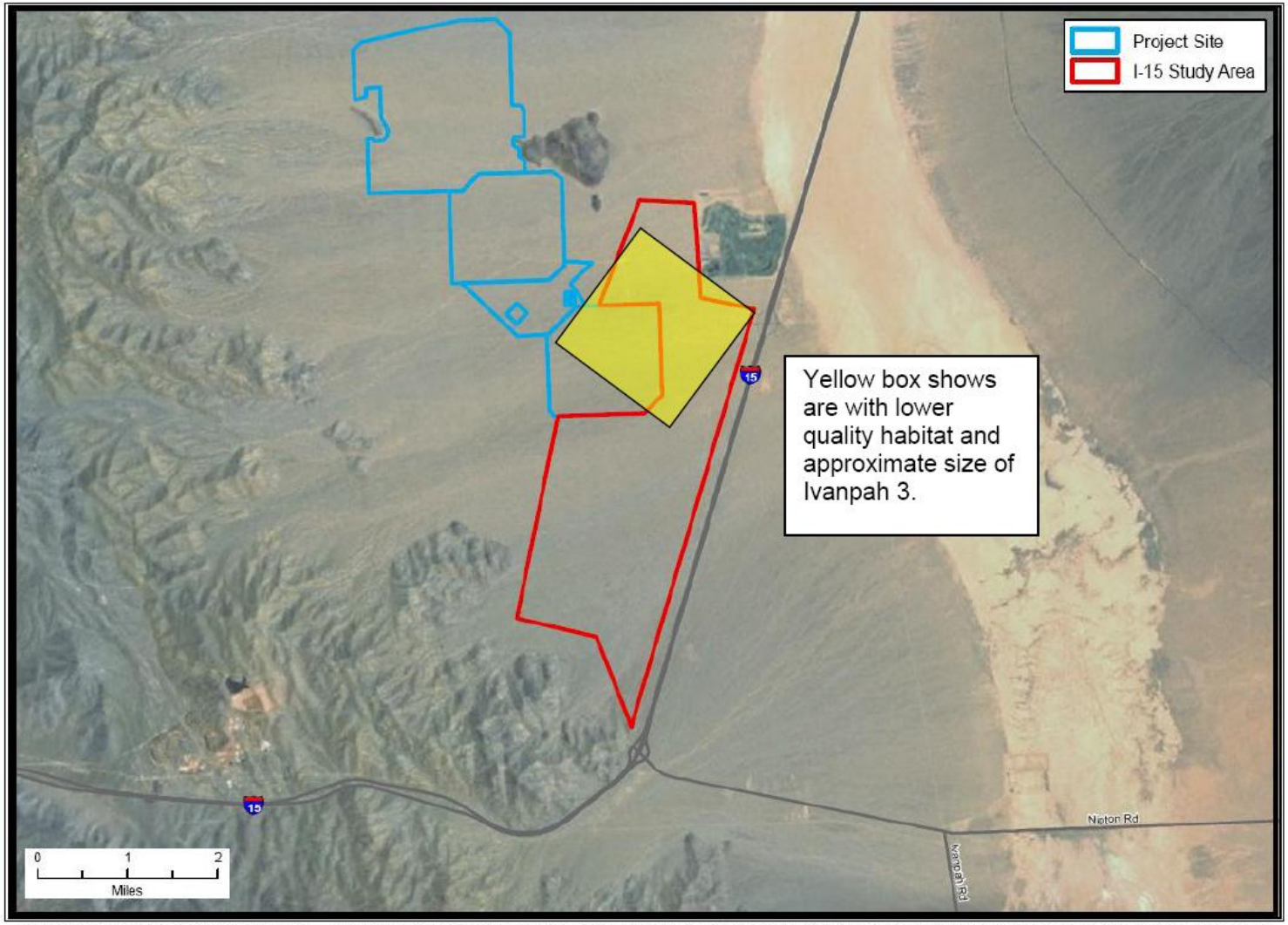


U.S. BUREAU OF LAND MANAGEMENT and CALIFORNIA ENERGY COMMISSION - SITING, TRANSMISSION AND ENVIRONMENTAL PROTECTION DIVISION, OCTOBER 2009
SOURCE: California Energy Commission - Tele Atlas Data - San Bernardino County

Rebuttal Testimony - Figure 2

ALTERNATIVES - FIGURE 6

ISEGS - I-15 Alternative



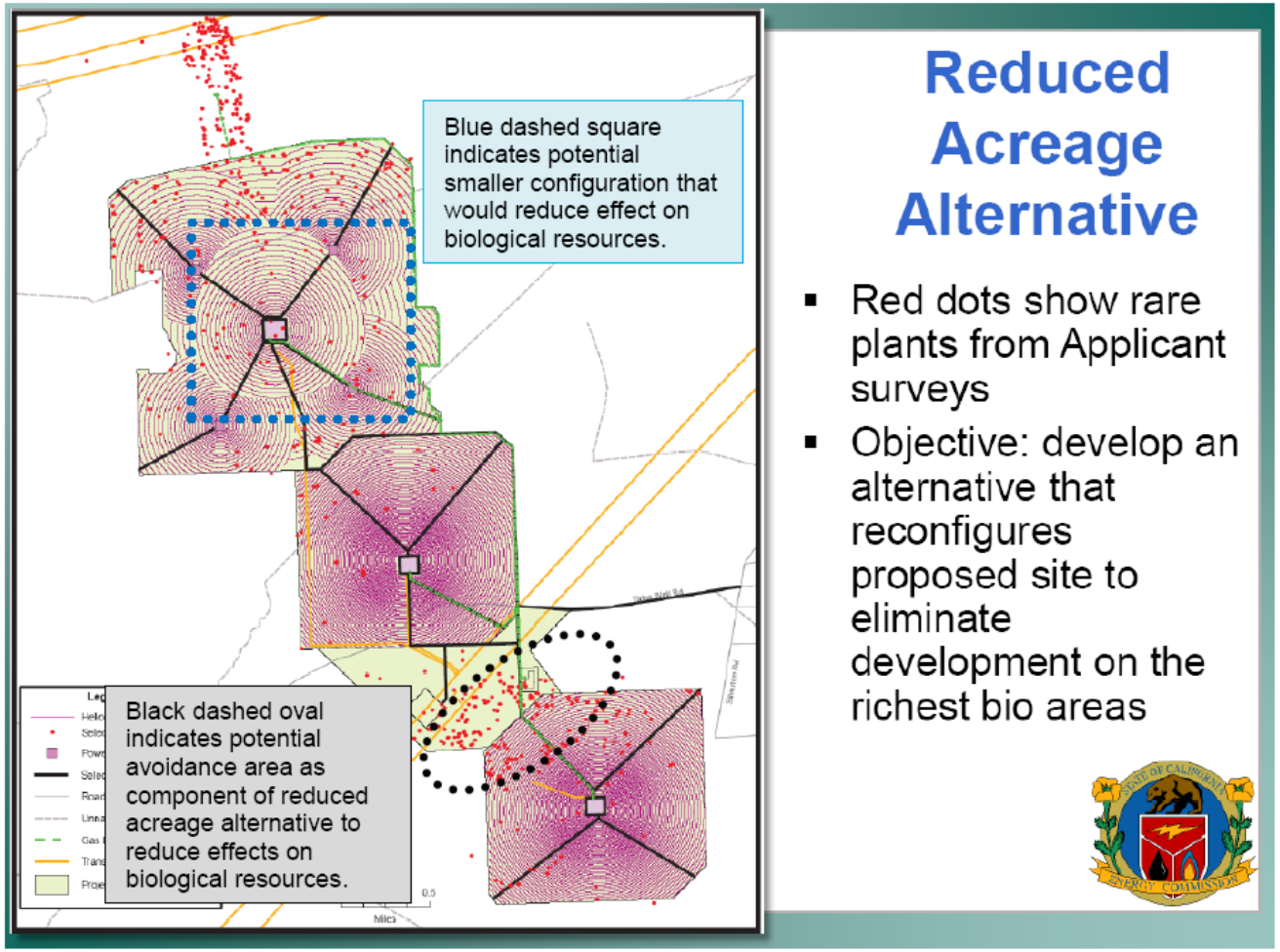
U.S. BUREAU OF LAND MANAGEMENT and CALIFORNIA ENERGY COMMISSION - SITING, TRANSMISSION AND ENVIRONMENTAL PROTECTION DIVISION, OCTOBER 2009

SOURCE: California Energy Commission

Rebuttal Testimony - Figure 3

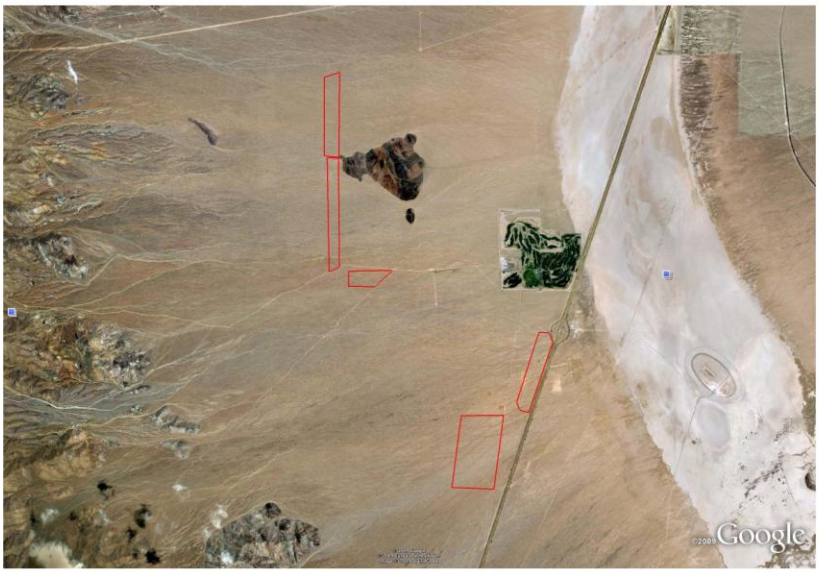
Reduced Acreage Alternative: From PSA Workshop Presentation (July 31, 2009)

(Text boxes and dashed line areas added to explain options)



Rebuttal Testimony Figure 4

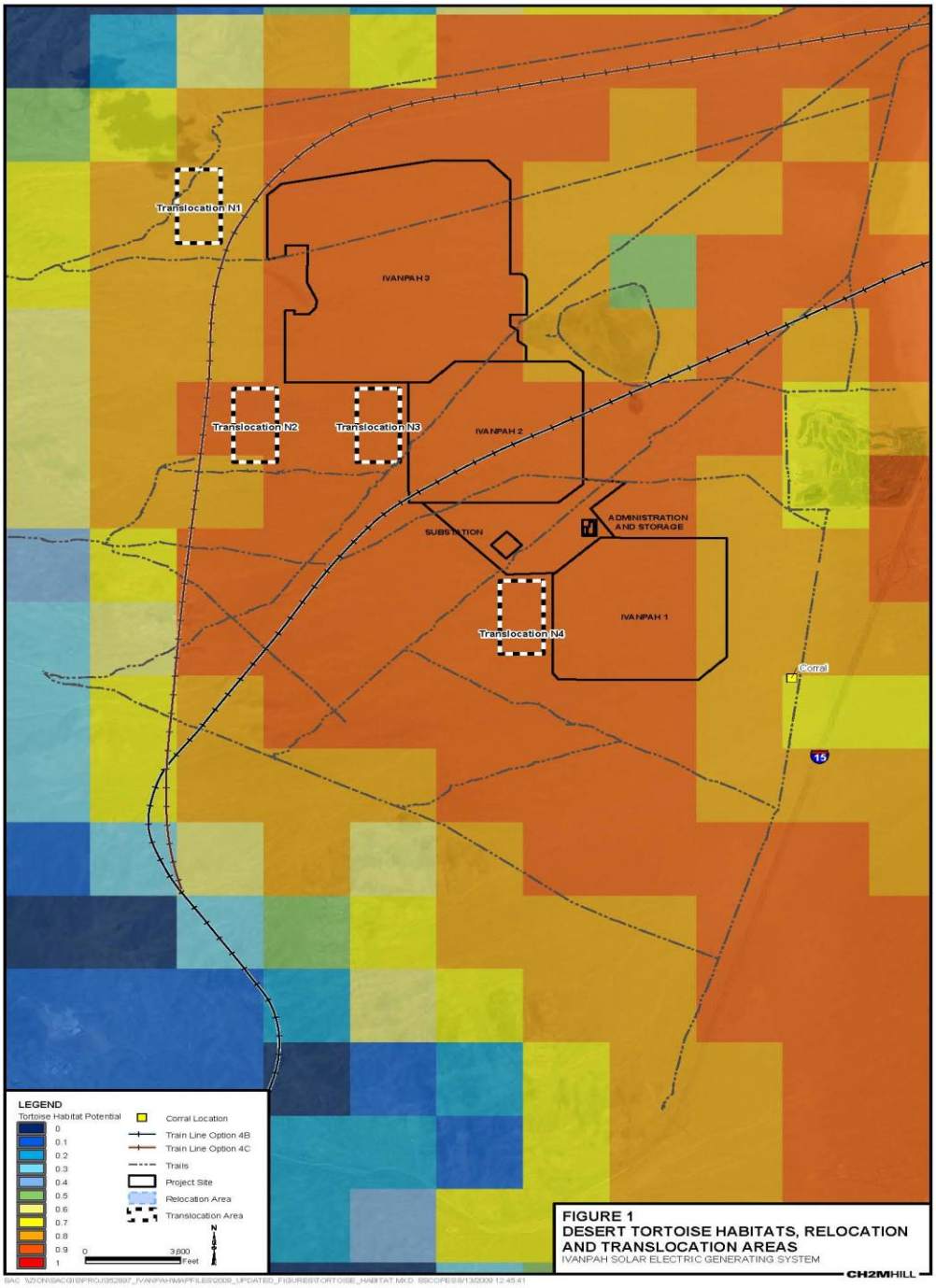
From Sierra Club Opening Testimony, Exhibit 604, Map of areas in the Project and I-15 alternative sites surveyed for desert tortoise burrows.



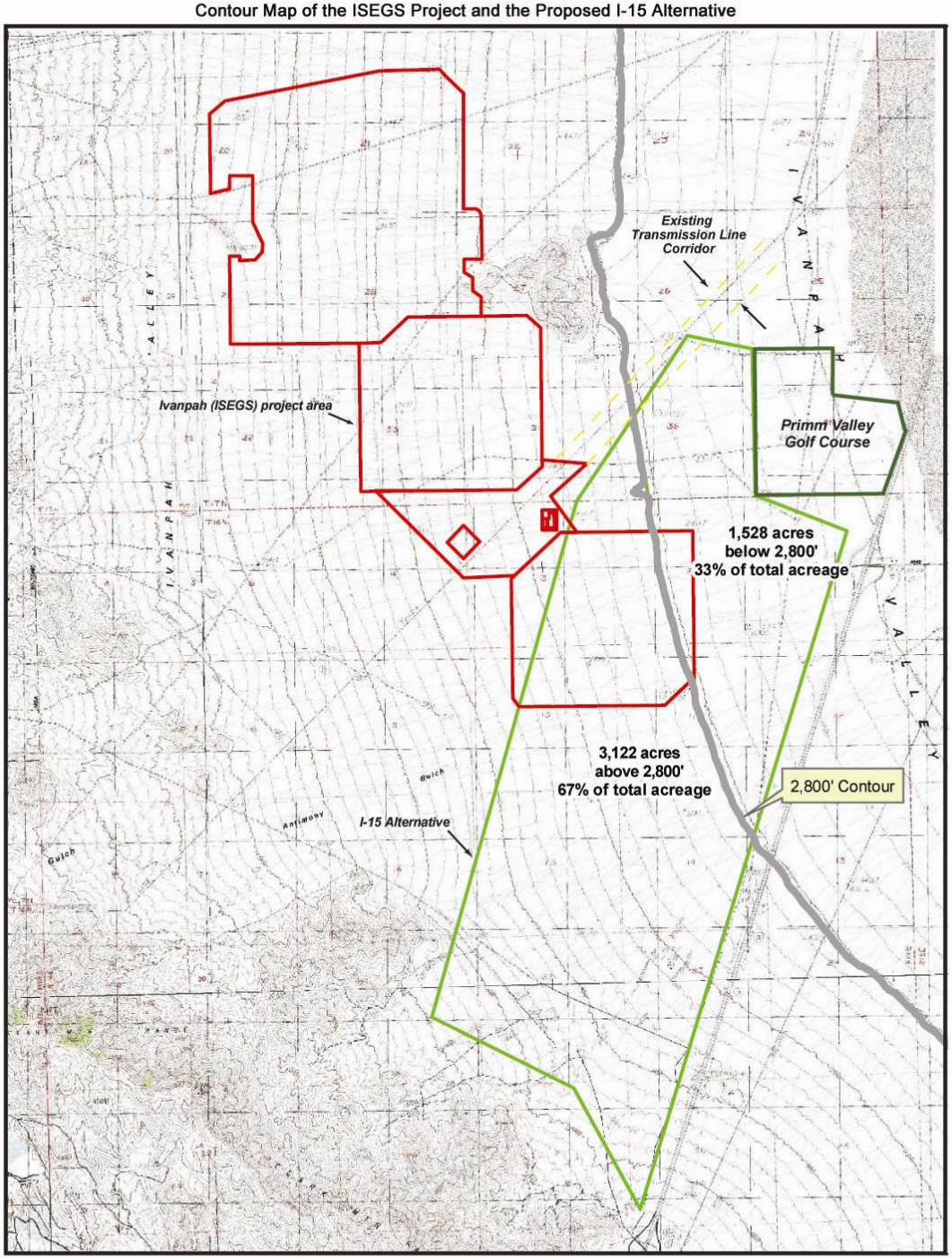
Locations surveyed for desert tortoise burrows in December 2009. Boundaries of survey areas (indicated in red) may be inexact due to manual entry.

Rebuttal Testimony Figure 5

USGS model (Nussear et al. 2009) depicting desert tortoise habitat quality in the ISEGS project area



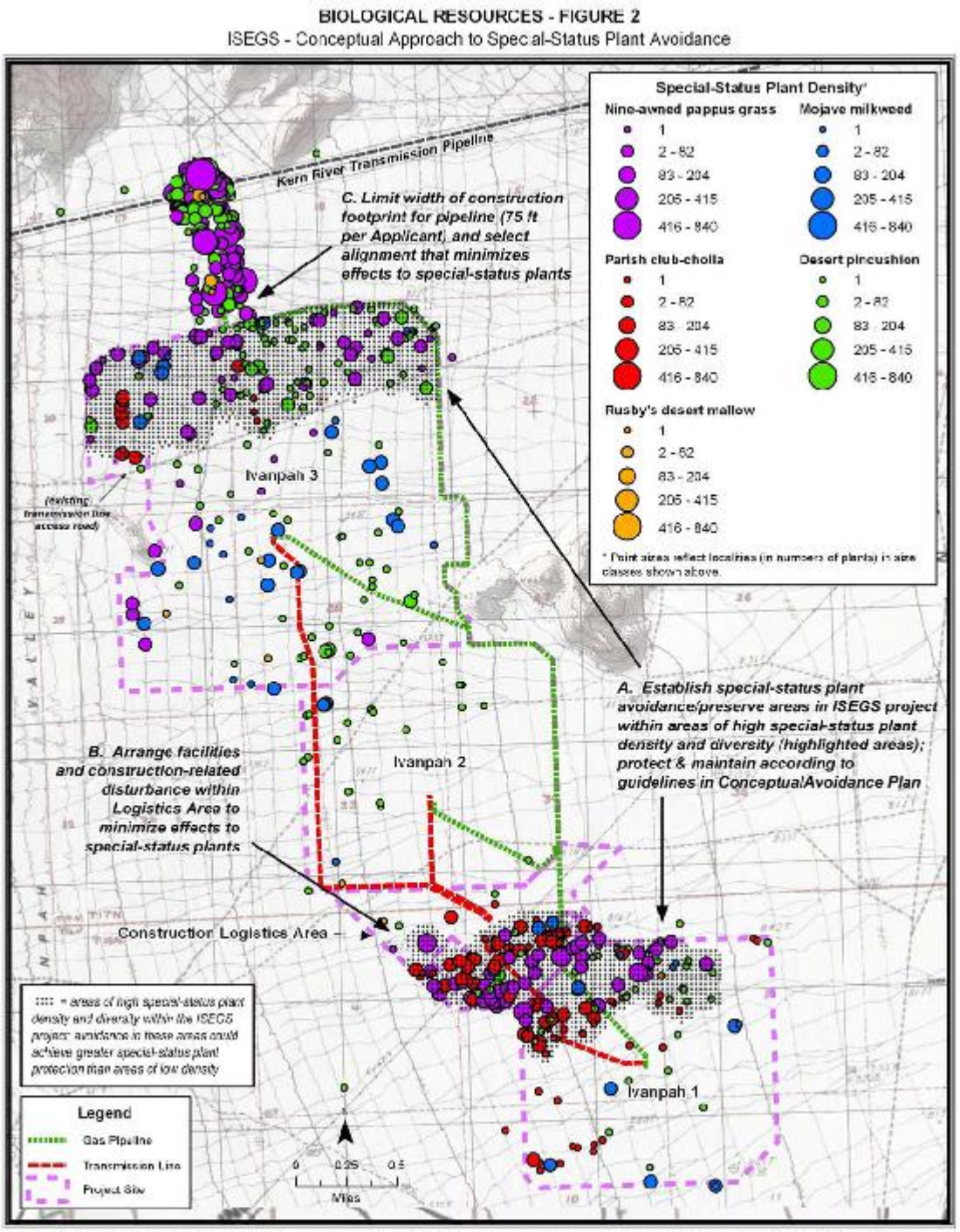
REBUTTAL TESTIMONY - FIGURE 6
Ivanpah Solar Electric Generating System
Contour Map of the ISEGS Project and the Proposed I-15 Alternative



CALIFORNIA ENERGY COMMISSION, SITING, TRANSMISSION AND ENVIRONMENTAL PROTECTION DIVISION, JANUARY 2010
SOURCE: Aspen Environmental

JANUARY 2010

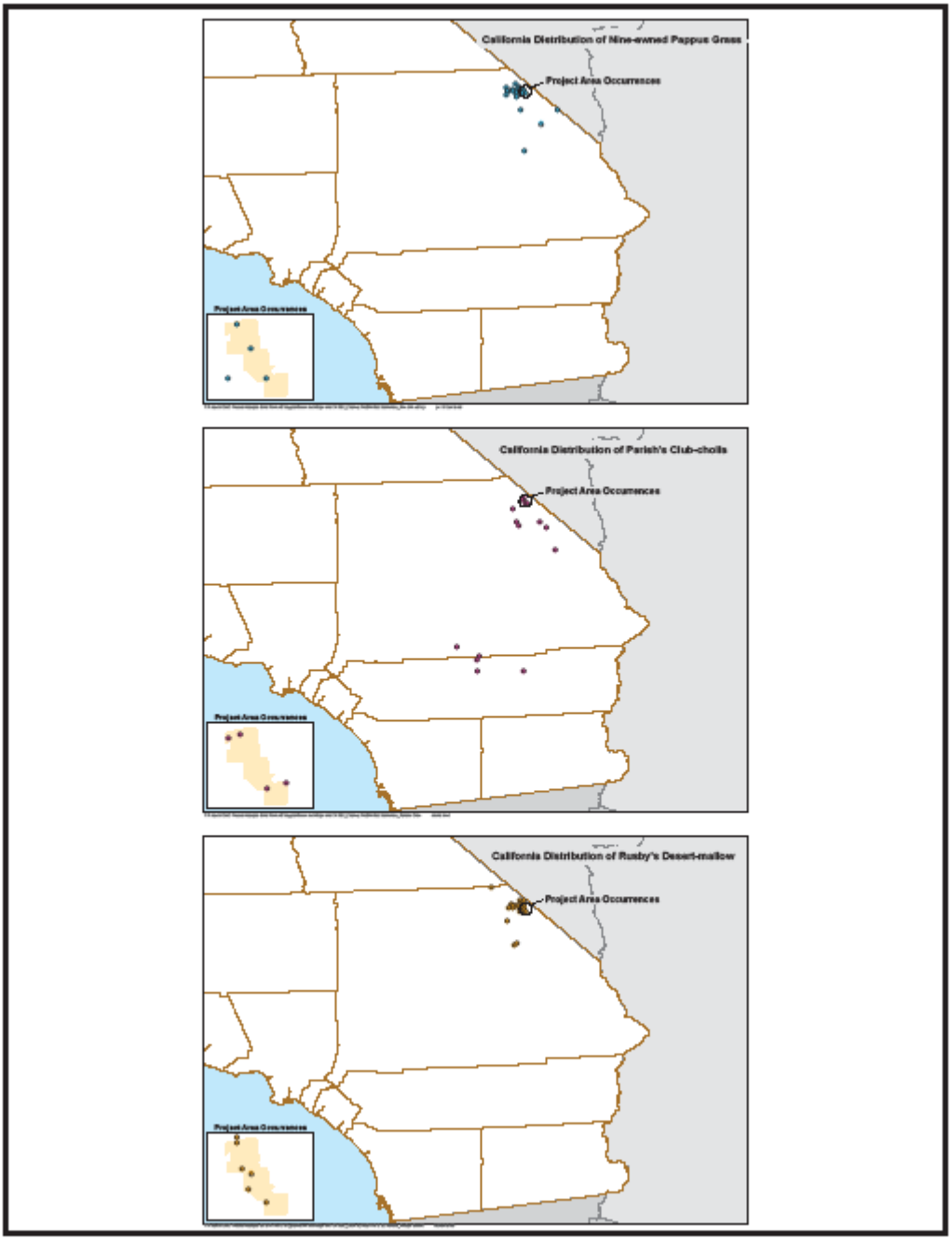
Rebuttal Testimony Figure 7



CALIFORNIA ENERGY COMMISSION - SITING, TRANSMISSION AND ENVIRONMENTAL PROTECTION DIVISION, SEPTEMBER 2009
SOURCE: California Energy Commission

Rebuttal Testimony Figure 8

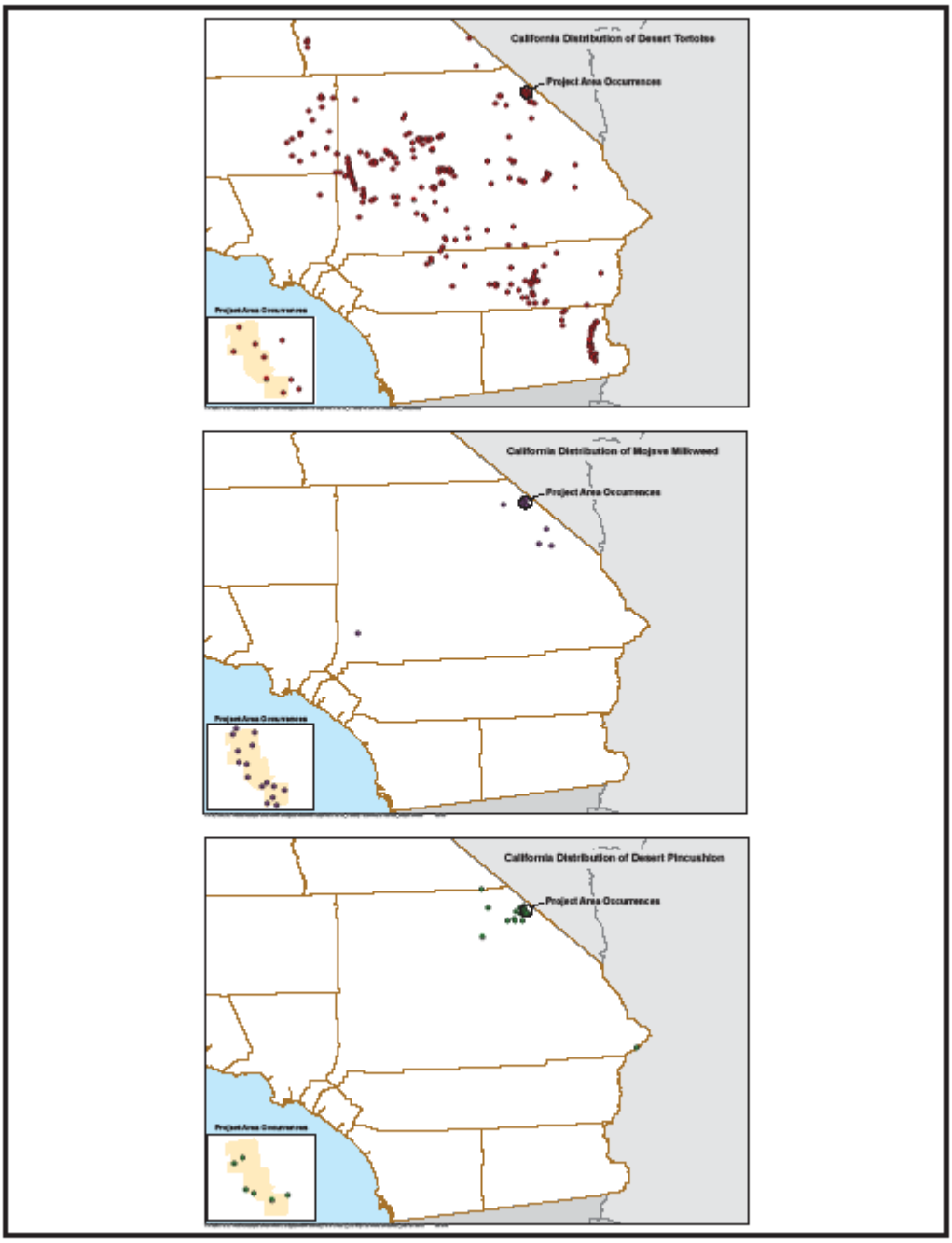
BIOLOGICAL RESOURCES - FIGURE 1A
California Distribution of Six Special-Status Species in the ISEGS Project Area



CALIFORNIA ENERGY COMMISSION - SITING, TRANSMISSION AND ENVIRONMENTAL PROTECTION DIVISION, JANUARY 2010
SOURCE: CNDDB, August 2009

Rebuttal Testimony Figure 9

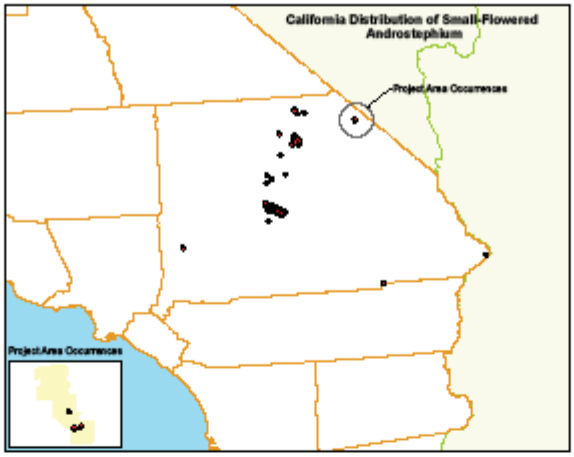
BIOLOGICAL RESOURCES - FIGURE 1B
California Distribution of Six Special-Status Species in the ISEGS Project Area



CALIFORNIA ENERGY COMMISSION - SITING, TRANSMISSION AND ENVIRONMENTAL PROTECTION DIVISION, JANUARY 2010
SOURCE: CNDDB, August 2009

Rebuttal Testimony Figure 10

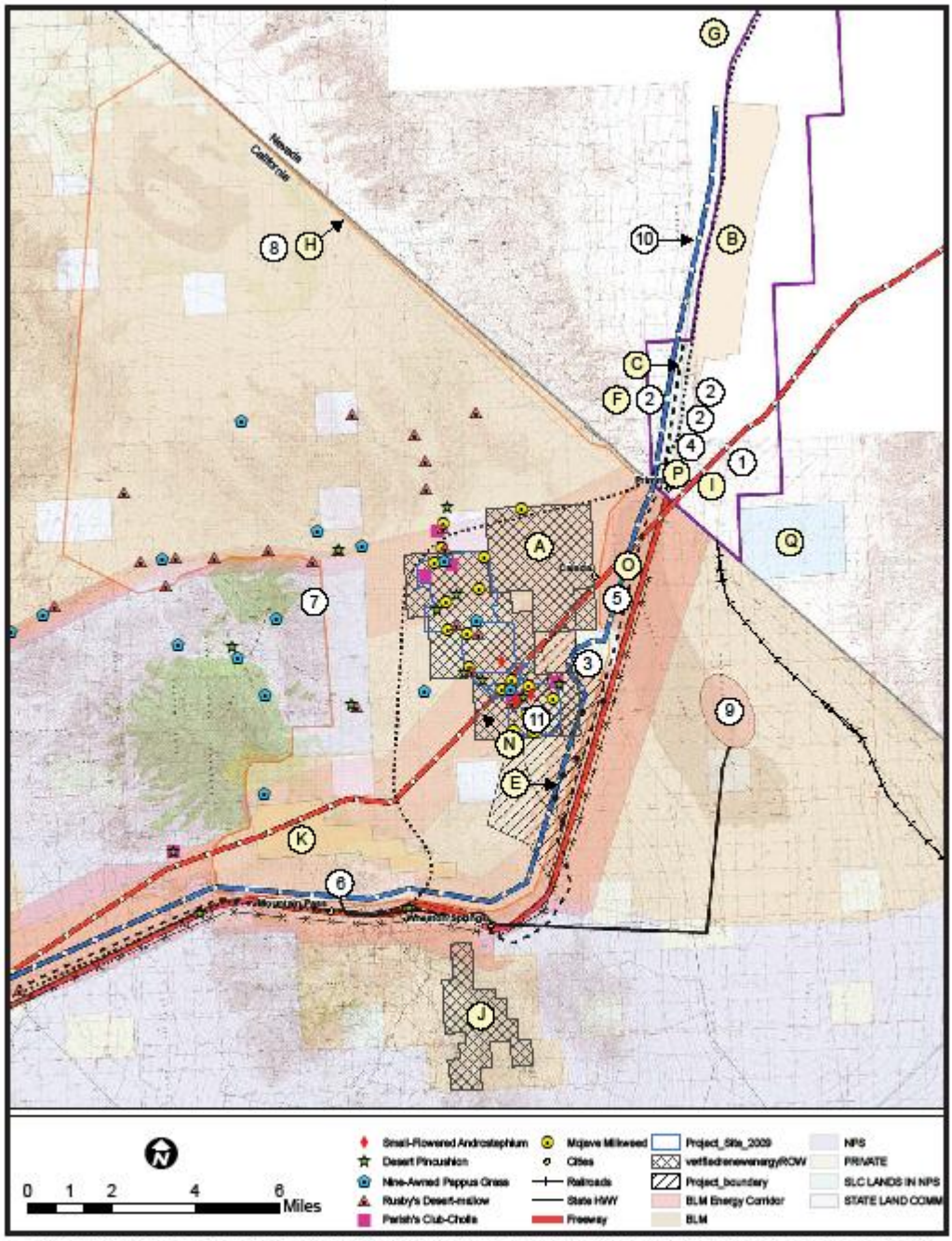
REBUTTAL TESTIMONY- FIGURE 10
California Distribution of Small-Flowered Androstephium in the ISEGS project area



CALIFORNIA ENERGY COMMISSION - SITING, TRANSMISSION AND ENVIRONMENTAL PROTECTION DIVISION, JANUARY 2010
SOURCE: CNDDB, November 2009

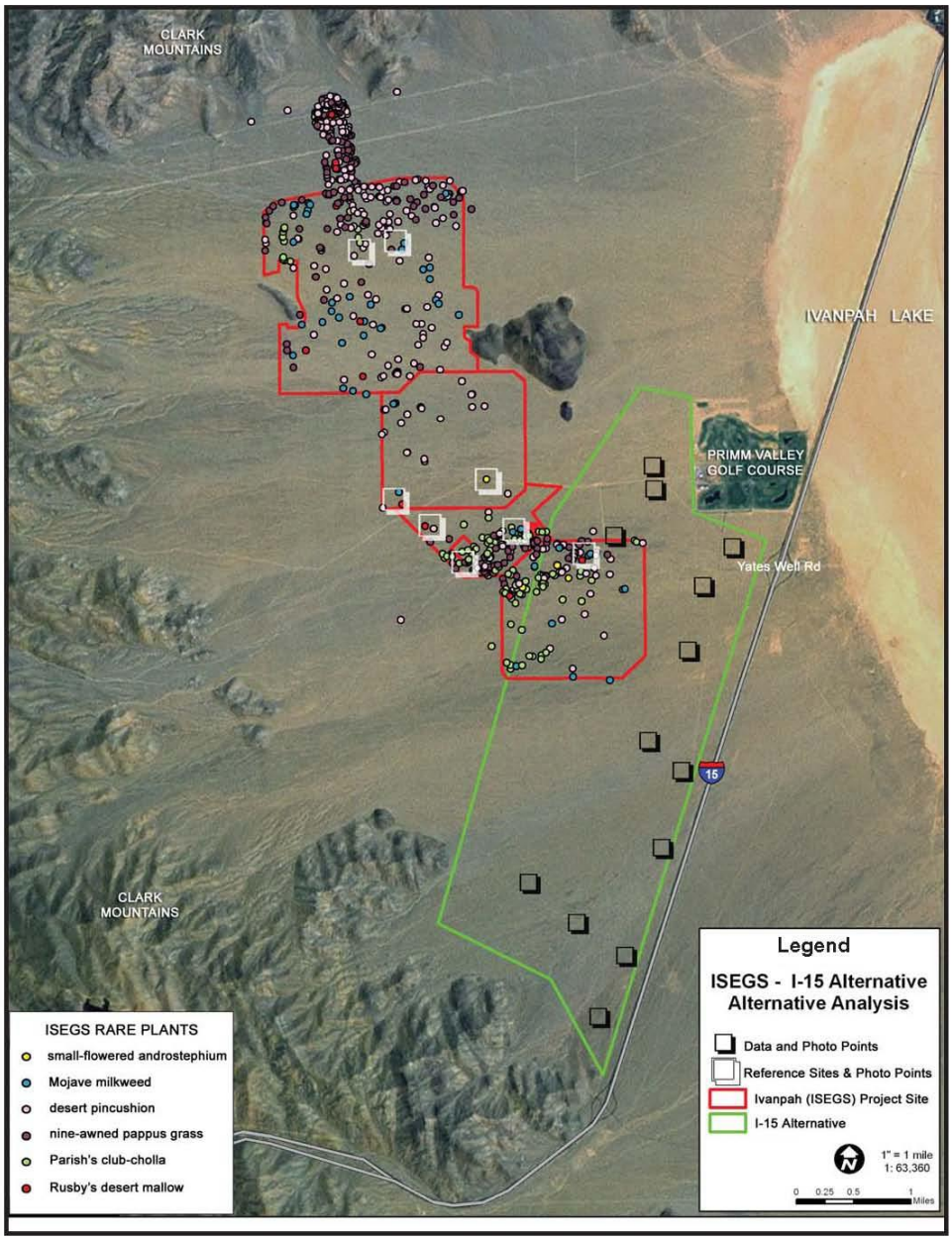
Rebuttal Testimony Figure 11

REBUTTAL TESTIMONY - FIGURE 11
Ivanpah Solar Electric Generating System - Ivanpah Valley Existing and Future/Foreseeable Projects and Special-Status Plant Data



CALIFORNIA ENERGY COMMISSION - SITING, TRANSMISSION AND ENVIRONMENTAL PROTECTION DIVISION, JANUARY 2010
SOURCE: CNDDB, November 2009

REBUTTAL TESTIMONY - FIGURE 12
Ivanpah Solar Electric Generating System - I-15 Alternative Field Analysis



CALIFORNIA ENERGY COMMISSION - SITING, TRANSMISSION AND ENVIRONMENTAL PROTECTION DIVISION, JANUARY 2010
SOURCE: Aspen Environmental Group

DECLARATION OF
Richard L. Anderson

I**, Richard L. Anderson,** declare as follows:

1. I am presently under contract with Aspen Environmental Group to provide environmental technical assistance to the California Energy Commission. Under Contract No. 700-05-002, I am serving as a Biological Resource Specialist to provide Peak Workload Support for the Energy Facility Siting Program and for the Energy Planning Program.

2. A copy of my professional qualifications and experience is attached hereto and incorporated by reference herein.

3. I assisted Staff in the analysis of **Biological Resources** of the alternatives for the **Ivanpah Solar Electric Generating System (ISEGS),** and helped to prepare testimony based on my independent analysis of the Application for Certification and supplements hereto, field surveys of the proposed alternatives, data from reliable documents and sources, and my professional experience and knowledge.

4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue addressed therein.

5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: December 31, 2009 Signed: _____

At: Davis, California

RICHARD L. ANDERSON

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Davis, CA 95618
530.758.4672 Office
530.758.4698 FAX
Danderson@cal.net

EDUCATION

1976	B.S. Biological Sciences, University of California at Davis

EXPERIENCE

March 2005 - Present	Biological Resources, water Resources and soil resources consulting related to energy production.
March 2001 – March 2005	Energy Facilities Siting Planner lll---Supervise the Biology, Water, and Soil Resources Unit of the Systems Assessment and Facilities Siting Division. Responsible for biology, water, and soil staff and related products regarding energy planning, policy, and siting.
August 1979 - March 2001	Planner l and Planner ll---Staff Biologist, California Energy Commission Develop and review planning and policy objectives for California's energy facility siting program. Work on interdisciplinary teams responsible for review and preparation of Environmental Impact Reports, environmental planning projects, and locational analyses. Provide expert testimony in the area of biological resources. Act as project manager and contract manager for field research. Organize and direct workshops. Survey existing and proposed energy facility sites. Coordinate biological resource issue evaluation and mitigation planning with Federal, State; and local agencies and other interested parties. Managed several complex multi-year research projects.
October 1977- July 1979	Environmental Specialist ll, California State Resources Control Board Responsible for environmental documents produced in the Division of Water Right's application unit. Analyzed and evaluated impacts of direct diversion and/or water storage (reservoir) on the environment. Coordinated and communicated with other State, Federal and local agencies, and the general public. Trained new employees.

PROFESSIONAL AFFILIATIONS/ CERTIFICATION	Raptor Research Foundation The Wildlife Society---Certified Wildlife Biologist, TWS American Ornithological Union Coopers Society American Field Ornithologists Swainson's Hawk Technical Advisory Committee International Erosion Control Association National Wind Coordinating Committee
PUBLICATIONS	Author of numerous staff testimonies for the California Energy Commission including marine biology and water quality issues associated with once-through cooling power plants. Author of numerous environmental assessments for water diversion and impoundment projects. Author of numerous reports and papers regarding conservation of T&E species, wind energy/bird interactions, and standard metrics and methods for monitoring bird interactions with wind turbines/utility structures.

Publications: Richard L Anderson

Anderson, R., M. Bradbury, C. Chun, J. Dinsdale, J. Estep, K. Fien, and R. Schlorff. 2006. California Swainson's Hawk Inventory: 2005-2006. 2005 Progress Report. California Department of Fish and Game, Resource Assessment Program. 15pp.

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Anderson, R.L., J. Tom, N. Neumann, J. Noone and D. Maul. 1996a. Avian risk assessment methodology. Pp. 74-87 *in* Proceedings of the National Avian-Wind Power Planning Meeting II. National Wind Coordinating Committee/RESOLVE. Washington, D.C.

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Anderson, R.L., H. Davis, W. Kendall, H. Drive, L.S. Mayer, M.L. Morrison, K. Sinclair, D. Strickland, and S. Ugoretz. 1997. Standard metrics and methods for conducting avian/wind energy interaction studies. Pp. 265-272 *in* Proceedings of the 1997 American Wind Energy Association Annual Meeting. American Wind Energy Association, Washington, D.C.

Anderson, R.L., J. Tom, N. Neumann, AND J. Cleckler. 1998. Avian Monitoring and Risk Assessment at Tehachapi Pass Wind Resource Area, California: Tehachapi Phase I Results. Proceedings of the American Wind Energy Association Annual Conference, Washington D.C.

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Spiegel, L.K., M.A. Bradbury, M.M. Disney, and R.L. Anderson. 1991. California Energy Commission's San Joaquin kit fox monitoring project in Kern County. 1991 Annual report to the California Department of Fish and Game. Unpubl. Rept. Available from: The California Energy Commission, Environmental Protection Office, Sacramento, CA. 50pp + app.

Spiegel, L.K., and R.L. Anderson. 1992. Southern San Joaquin Valley ecosystem protection program: natural lands inventory. Pp 249-261, *in* Endangered and sensitive species of the San Joaquin Valley, California (D.F. Williams, S. Byrne, and T.A. Rado, eds.). California Energy Commission, Sacramento, California, 388 pp.

Strickland, D., and R.L. Anderson. 2002. Standard Metrics and Methods for Avian/Wind Energy and Utility Structures Interaction Studies. Pp 47-65 *in* Avian Interactions with Utility and Communication Structures: Proceedings of a workshop held in Charleston, South Carolina, December 2-3, 1999.

Anderson, R.L., J. TOM, N. NEUMANN, AND J. CLECKLER. 1996. Avian Monitoring and Risk Assessment at Tehachapi Pass Wind Resource Area, California. 1995 Progress Report. California Energy Commission, Sacramento.

Anderson, R.L., J. TOM, N. NEUMANN, AND J. CLECKLER. 1998. Avian Monitoring and Risk Assessment at Tehachapi Pass Wind Resource Area, California: Tehachapi Phase I Results. Proceedings of the American Wind Energy Association Annual Conference, Washington D.C.

DECLARATION OF
Carolyn A. Chainey-Davis

I**, Carolyn A. Chainey-Davis,** declare as follows:

1. I am presently under contract with Aspen Environmental Group to provide environmental technical assistance to the California Energy Commission. Under Contract No. 700-05-002, I am serving as a Biological Resource Specialist (Associate level) to provide Peak Workload Support for the Energy Facility Siting Program and for the Energy Planning Program.

2. A copy of my professional qualifications and experience is attached hereto and incorporated by reference herein.

3. I assisted Staff in the analysis of **Biological Resources** of the alternatives for the **Ivanpah Solar Electric Generating System (ISEGS),** and helped to prepare testimony on based on my independent analysis of the Application for Certification and supplements hereto, field surveys of the proposed alternatives, data from reliable documents and sources, and my professional experience and knowledge.

4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue addressed therein.

5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: December 31, 2009 Signed: _____

At: Nevada City, California

Carolyn Chainey-Davis, botanist

Over 23 years experience conducting biological inventories and impact assessments, rare plant and noxious weed surveys, large-scale vegetation mapping, wetland delineations, large-scale watershed assessments, designing and implementing mitigation & monitoring plans, habitat management plans, and restoration plans throughout California. Ms. Chainey-Davis field experience includes a diverse group of clients and projects from large transmission and hydro relicensing projects to urban and residential development projects, local, state and federal agencies, resource conservation organizations, landfill and mine reclamation projects, and many more. She led Garcia and Associates (GANDA) botanical studies for numerous FERC relicensing projects (PG&E & SCE) including Stanislaus River, Upper North Fork Feather River, Pit River, Vermillion, Bucks Lake and Poe hydro-relicensing projects, Transmission Separation project, Lower Owens River riparian monitoring, and hundreds of other large and small projects around the state.

Ms. Davis is past President of the California Native Plant Society, Nevada and Placer County Chapter and is a co-author of the recently published field guide "*Wildflowers of Nevada and Placer Counties*", published by the California Native Plant Society. Ms. Davis completed her wetland training at Portland State University and is certified for conducting wetland delineations based on the U.S. Army Corps of Engineers Wetland Delineation Manual. Ms. Chainey-Davis is skilled in the use of Trimble GeoExplorer series Global Positioning (GPS) equipment. As a botanist, she apprenticed for several years under some of the state's leading botanists, vegetation and wetland ecologists, including Robert Holland. Ms. Davis' continuing education includes several annual intensive botanical taxonomy workshops through the U.C. Berkeley Jepson Herbarium.

A Sampling of Relevant Project Experience

Project: **Beacon Solar Energy Project Rosamond Water Alternative**
Client: **California Energy Commission (CEC)**
Conducted detailed habitat assessment and vegetation mapping for a 40-mile alternative water pipeline alignment near Mojave, CA, in support of the Final Staff Assessment. CEC evaluated the feasibility of BSEP using an alternative source of water other than onsite potable groundwater and identified City of Rosamond tertiary treated wastewater as a feasible source. Prepared supplemental report describing the vegetation resources occurring along the southern 23 miles of the 39.61-mile Rosamond water pipeline alignment, including vegetation mapping and a rare plant habitat assessment. Assisted staff in the impact assessment for the proposed and preferred alternative.

Project: **Lower Owens River Monitoring Program**
Client: **Ecosystem Sciences**
Member of a team of three biologists to design long-term monitoring program for collecting and analyzing data on riparian habitat and key wildlife habitat characteristics on 62 miles of the Lower Owens River. Directed field efforts to collect baseline data at 350 sites. Future monitoring, conducted after the initiation of appropriate flow and land management practices, will be compared against the baseline to determine if changes resulting from proposed restoration efforts (augmented stream flows) are consistent with the LORP goals and objectives.

Project: **Open ended Contract for Biological Services**
Client: **Southern California Edison (SCE)**
Led Garcia and Associates (GANDA) botanical studies (vegetation mapping, habitat assessments, etc.) in support of various SCE construction and relicensing projects in the central and southern Sierras, Sierra east slope and Great Basin region, and the eastern edge of the San Joaquin Valley.

182 Grove Street Nevada City, CA 95959 [ph] 530.478.1963 [cell] 530.205.6218 bighair60@att.net

Project: **Stanislaus River Hydroelectric Project Relicensing Studies**
Client: **Pacific Gas and Electric Company, Technical and Ecological Services**
Led GANDA field efforts to conduct floristically-based botanical studies for the Federal Energy Regulatory Commission relicensing of four hydroelectric and transmission line projects located on the Stanislaus River, Stanislaus National Forest. Riparian and watershed vegetation mapping and sampling, special-status plant surveys, noxious weed mapping, and identify and map culturally significant Native American botanical resources for local tribes in support of the Federal Energy Regulatory Commission relicensing process. Prepared draft and final reports.

Project: **Owens Lake Dust Control Project**
Client: **Garcia and Associates**
Conducted two years of floristically-based special status plant surveys and wetland delineations for the Los Angeles Department of Water and Power Owens Lake Dust Control mitigation project.

Project: **Kern River Natural Gas Pipeline**
Client: **Garcia and Associates**
Conducted floristically-based special status plant surveys for the Daggett and Goodsprings segments of the interstate pipeline.

Project: **Pit River Hydroelectric Project Relicensing Studies**
Client: **Pacific Gas and Electric Company, Technical and Ecological Services**
Led field efforts to conduct floristically-based special status plant surveys, noxious weed surveys, upland habitat mapping, and riparian vegetation classification and mapping for PG&E's Pit 3, 4, and 5 hydroelectric project in Shasta County in support of the Federal Energy Regulatory Commission relicensing process. Prepared draft and final reports.

Project: **Upper North Fork Feather River and Poe Hydroelectric Projects, Lake Almanor Habitat Management Plan**
Client: **Pacific Gas and Electric Company, Technical and Ecological Services**
Led field efforts to conduct floristic surveys for special-status plant species and noxious weeds on the Upper North Fork Feather River (Plumas and Lassen National Forests) and Poe Project Included GIS-based riparian and upland vegetation mapping in support the Federal Energy Commission relicensing process. Prepared draft and final reports. Also conducted detailed mapping of the wet meadows around Lake Almanor and prepared a long-term habitat management plan for meadow resources and willow flycatcher habitat.

Project: **Transmission Separation Project**
Client: **Foster Wheeler Environmental Corporation**
Led field efforts to conduct floristically-based special-status plant surveys and noxious weed surveys for the PG&E Transmission Separation Project. GANDA botanists conducted surveys on selected transmission line segments and their associated access roads on USDA Forest Service (USFS) lands in the Plumas, Shasta-Trinity, Tahoe, and Eldorado National Forests, created GIS-based vegetation and noxious weed maps, and analyzed potential threats to special-status plant populations. Prepared draft and final reports.

Project: **Nevada and Placer County projects – large and small subdivisions, infrastructure development, etc.**
Client: **Susan Sanders Biological Consulting and Beedy Environmental Consulting**
Conducted biological inventory and impact analyses and prepared mitigation plans for over 100 large and small subdivisions and infrastructure development projects in Nevada and Placer County. Lead writer and botanist. All projects included vegetation mapping, habitat assessments, floristic surveys, and mitigation planning. Prepared detailed habitat management plans and recreation/ trail plans for over a thousand acres of open space.

Project: **Dog Ranch-Salmon Creek Conservation Project**
Client: **Robert Holland**
Conducted endangered species surveys and documented over 300 occurrences of special status plants (using Trimble data dictionary and population sampling protocol) for a proposed conservation easement/land swap on a 400+ acre ranch in Humboldt County on the Samoa Peninsula.

182 Grove Street Nevada City, CA 95959 [ph] 530.478.1963 [cell] 530.205.6218 bighair60@att.net

Project: **Field Guide to *Epilobium* in the Sierra Nevada, Tahoe National Forest**
Client: **U.S.D.A. Forest Service, Tahoe and Inyo National Forests (Open-ended Contract)**
Conducted surveys for rare *Epilobiums* at seven sites in the Tahoe and Inyo National Forests and prepared a field guide to the genus *Epilobium* in the Sierra Nevada, with illustrations and keys to identification.

Project: **Bear Valley Meadow Restoration**
Client: **American Rivers**
Sample design and long-range monitoring design and protocol for a large-scale meadow restoration project in Placer County. Included detailed vegetation mapping, conducting baseline inventory, and preparing report on sample design and results of baseline monitoring.

Project: **Shirttail Creek Conservation Easement**
Client: **Beedy Environmental Consulting for Conservation Biology Institute**
Conducted biological inventory and conservation assessment for 800-acre property on Shirttail Creek in the American River watershed using protocol developed by The Nature Conservancy for conservation planning. Lead writer and botanist.

Project: **Natural Heritage 2020 Nevada County Watershed Assessment**
Client: **County of Nevada and Sierra Business Council**
Lead botanist for a countywide watershed and ecosystem assessment. A two-year process funded by the Sierra Business Council and the County of Nevada to create a GIS database and biotic inventory of the county's natural habitats and wildlife resources, including an assessment of vegetation, special status and invasive for 98 sub-watershed basins in the county. Prepared botanical sections of the report, verified accuracy of more than 40 GIS data themes, assessed the extent and quality of each of the county's ecosystem types, potential to support special-status plants and animals.

Project: **Special Status Plant Surveys and Habitat Mapping for Rock Creek/Cresta Hydroelectric**
Client: **Pacific Gas and Electric Company, Technical and Ecological Services**
Conducted floristically-based special status plant surveys and habitat mapping for PG&E's Rock Creek-Cresta hydroelectric facility project area and 72-mile transmission line in Plumas, Butte, Yuba and Sutter counties.

Project: **Osborne Hill Open Space Habitat Management Plan**
Client: **Susan Sanders Biological Consulting**
Prepared detailed, goal-driven, long-range habitat management plan for 250 acres of open space for a residential development in Nevada County. Included guidelines for forest management to promote old-growth conditions, fuels management specifications, habitat management specifications, and designs and implementation plan for recreational trails, educational signage, and formation of an independent non-profit land trust to manage the open space. Prepared similar plans for several other residential developments in Nevada County.

Project: **Ragsdale Creek Setback Study**
Client: **Susan Sanders Biological Consulting & County of Nevada**
Identified, described, and mapped important biological resources on an urban stream in Nevada County and recommended appropriate development setbacks to avoid/minimize impacts, assessed potential impacts to the creek as a result of adjacent development, and recommended mitigation measures to reduce impacts. Coordinated with County GIS Department in production of map of sensitive resources, and presented results of study to citizen advisory committee.

Project: **Open ended Contract for Biological Services, Various Transmission Projects**
Client: **Pacific Gas & Electric Company (PG&E)**
Led Garcia and Associates (GANDA) botanical studies (rare plant surveys, vegetation mapping, habitat assessments, etc.) in support of various PG&E transmission projects throughout California, including Kern #304, Northeast San Jose Reinforcement, Atlantic-Del Mar, Butte Reinforcement, and many more.

Project: **Open ended Contract for Biological Services, Transmission Relicensing Projects**
Client: **Southern California Edison (SCE)**
Led Garcia and Associates (GANDA) botanical studies (vegetation mapping, habitat assessments, etc.) in support of various SCE construction and relicensing projects in the central and southern Sierras, Sierra east slope and Great Basin region, and the eastern edge of the San Joaquin Valley.

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California Department of Fish and Game
San Joaquin Valley-Southern Sierra Region
1234 East Shaw Avenue
Fresno, California 93710

California Endangered Species Act
Incidental Take Permit No. 2081-2005-046-04

Los Angeles Department of Water and Power
Pine Tree Wind Development Project
Kern County

Authority: This California Endangered Species Act ("CESA") Incidental Take Permit ("Permit") is issued by the Department of Fish and Game ("Department") pursuant to Fish and Game Code Section 2081(b) and Section 2081(c), and California Code of Regulations, Title 14, Subdivision 3, Chapter 6, Article 1, commencing with Section 783. CESA prohibits the take[1] of any species of wildlife that is included in the list of endangered species, the list of threatened species, or the list of candidate species[2]. However, the Department may authorize, by permit, the take of such species if the conditions set forth in Section 2081(b) and Section 2081(c) are met.

Permittee: Los Angeles Department of Water and Power
Name and Title of Principal Officer:
Charles C. Holloway, Environmental Assessment Manager
Los Angeles Department of Water and Power

Contact Person/Project Representative:
Charles C. Holloway, Environmental Assessment Manager
Los Angeles Department of Water and Power
Phone (213) 367-0285

Mailing Address:
Los Angeles Department of Water and Power
Environmental Services
111 North Hope Street, Room #1044
Los Angeles, California 90012-2694

Effective date and expiration date of Permit:
This Permit shall be executed in duplicate original form and shall become effective once a

[1] Pursuant to Fish and Game Code Section 86, "'Take' means hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture or kill."

[2] "Candidate species" are species of wildlife that have not yet been placed on the list of endangered species or the list of threatened species, but which are under formal consideration for listing pursuant to Fish and Game Code Section 2074.2.

duplicate original is acknowledged by signature of the Permittee on the last page of the Permit and returned to the Department's Office of the General Counsel. Unless renewed by the Department, this Permit's authorization to take the Covered Species shall expire on **February 28, 2056**.

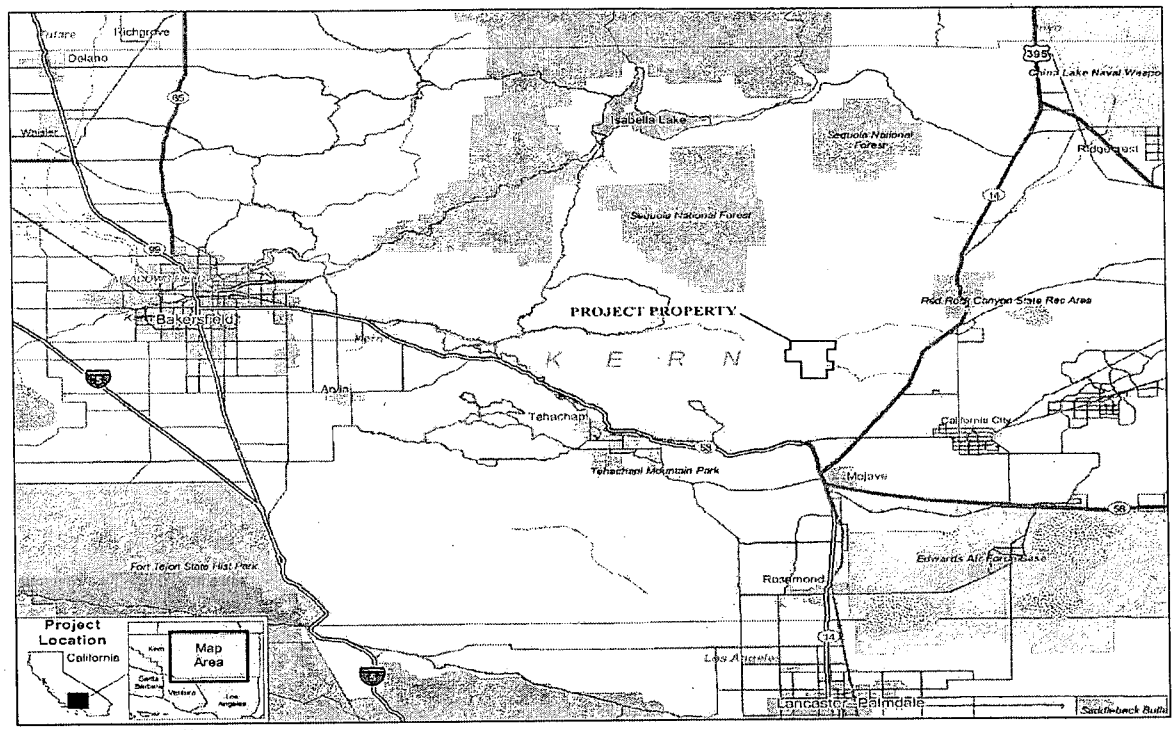
Project Location:
The project location is shown in **Figure 1**. The proposed project is located in the southern Sierra Nevada in Kern County, California. The property is approximately 6 miles west of California State Highway 14 and about 12 miles north of the town of Mojave and 15 miles northeast of the City of Tehachapi. The proposed wind turbines would be located along selected ridgelines on privately owned land consisting of approximately 8,000 acres (approximately 12.5 square miles) and is outside covered species habitat. The proposed 230-kV transmission line, a portion of which is in covered species habitat, originates at the project substation in the south-central part of the project property and travels southeastward until it intersects Pine Tree Canyon Road to the southeast of the project property. The line then roughly parallels Pine Tree Canyon Road eastward to a proposed switching station at LADWP's existing regional transmission line (Inyo-Rinaldi 230-kV line) near Highway 14 (**Figure 2**). This planned route extends a total of about 8 miles, crossing approximately 1.31 miles of public land (three parcels) managed by the Bureau of Land Management ("BLM"). The proposed 230-kV transmission line originates in Section 18 and crosses portions of Sections 13, 14, 15, 22, 21, 20, 17, 8, and 7.

The primary access to the wind turbine property is from Highway 14 via Jawbone Canyon Road, which enters the property at its northeastern corner. Pine Tree Canyon Road will be used for construction access and operation and maintenance ("O&M") access for the 230-kV transmission line.

Project Description:
Los Angeles Department of Water and Power ("LADWP") proposes to construct, operate, and maintain the Pine Tree Wind Development Project, a wind energy generation project, consisting of eighty 1.5-megawatt wind turbine generators. The project would also include several meteorological towers, an underground and overhead electrical collection system, a substation, an operations and maintenance facility and yard, an approximately 8-mile-long 230-kilovolt (kV) transmission line, and associated access roads. The 230-kV transmission line would connect the proposed project substation to the existing LADWP Inyo-Rinaldi 230-kV transmission line. LADWP is working with Wind Turbine Prometheus, a wind energy development company, as a contractor to develop and construct the proposed project. The goal of the proposed Pine Tree Wind Development Project is to reduce air pollutant emissions and dependence on fossil fuels related to the generation of electrical energy by LADWP.

Only project components that occur within covered species habitat (within Jawbone and Pine Tree Canyons) are addressed in this Incidental Take Permit. The "Project" as described in this Permit covers only that portion of the overall project.

Figure 1: Project Location



Source: ESRI Data & Maps 2004

EDAW

Pine Tree Wind Development Project

Figure 1
Project Region

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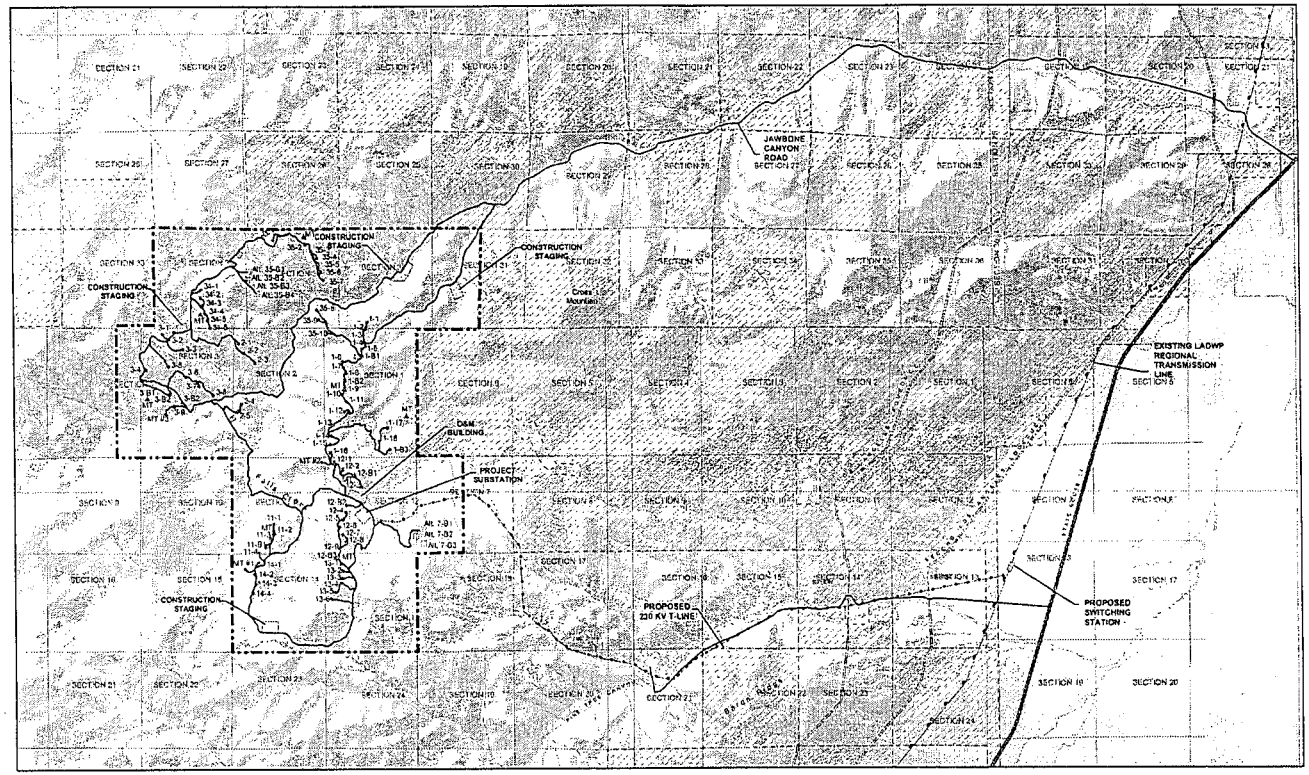
Figure 2. Siting of Project Components



BDAW

Pine Tree Wind Development Project

Figure 2
Siting of Project Components

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The portions of the Project that will occur in covered species habitat are limited to project components occurring in Jawbone and Pine Tree Canyons. These components include the existing access road and staging areas in Jawbone Canyon, and portions of the transmission line, existing and new access roads, and the switching station in Pine Tree Canyon (**Figure 3**). Table 1 lists the Pine Tree Wind Development Project components that occur in covered species habitat and indicates whether these components would have potential permanent or temporary impacts to habitat during construction and/or during O&M activities. **Impacts for ground-disturbing O&M activities that result in impacts greater than 500 square feet are not authorized under this Permit.**

Table 1
Pine Tree Wind Development Project
Project Component by Phase and Potential Impact to Covered Species Habitat

Project Component	Project Phase		Potential Impact to Sensitive Wildlife Habitat			
			Desert Tortoise[1]		Mohave Ground Squirrel	
	Construction	Operations & Maintenance	Temporary	Permanent	Temporary	Permanent
Transmission Line						
Towers	x	X	7 towers, 3.61 acres	7 towers, 0.01 acre	31 towers, 13.53 acres	31 towers, 0.01 acre
Pull Sites	x		2 site, 2.07 acres	None	6 sites, 4.82 acres	None
Switching Station	x	X	None	1 station, 2.90 acres	None	1 station, 2.90 acres
Staging Area	x		None	None	1 area, 1.50 acres	None
Access Roads						
Widening (Jawbone)	x	X	None	None	None	0.40 acre
Construction Road (Pine Tree)	x		1.79 acres	0.07 acre	1.79 acres	1.14 acre
Spur Roads (Pine Tree)	x	X	None	None	None	0.59 acre
Staging and Stockpile Areas (Jawbone)	x		None	None	5.81 acres	None
Total of Permanent and Temporary Impacts			**7.46 acres**	**2.98 acres**	**27.45 acres**	**5.05 acres**
Overall Total Impact			**10.45 acres**		**32.50 acres**	

[1] All desert tortoise habitat occurs within Mohave ground squirrel habitat (i.e., the 7 transmission line towers in desert tortoise habitat represent 7 of the 31 towers that occur in Mohave ground squirrel habitat).

Figure 3. Covered Species Habitat in Project Area.

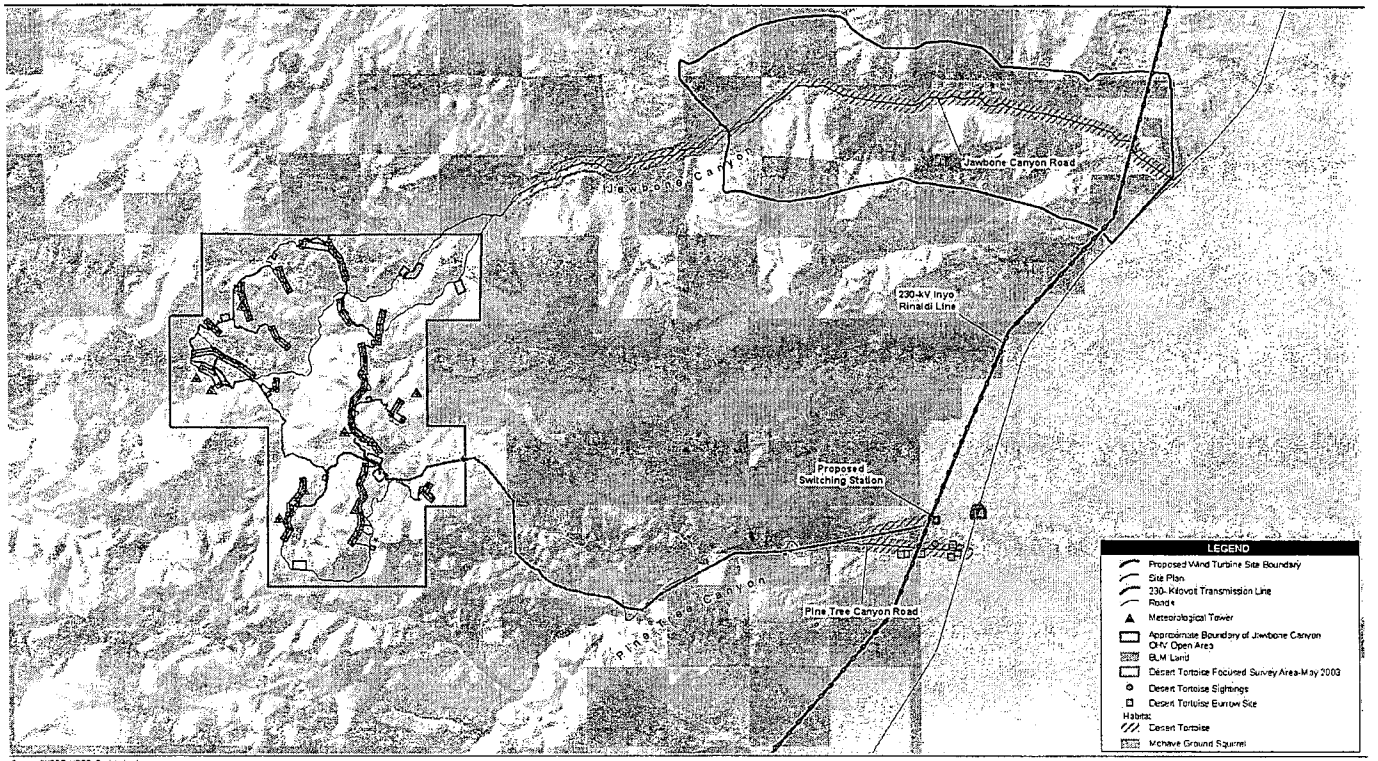

Figure 3
Desert Tortoise and Mohave Ground Squirrel Resources within the Project Study Area

Pine Tree Wind Development Project

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Project Description (cont'd.)

A. *Transmission Line and Tower Structures*

The overhead 230-kV transmission line would connect the substation on the wind turbine Project site to the existing Inyo-Rinaldi 230-kV transmission line located west of Highway 14 (Figure 2). About half of the 8-mile transmission line is located in or adjacent to Mohave ground squirrel habitat in Pine Tree Canyon, and approximately 1 mile of this line also occurs in desert tortoise habitat. The 230-kV transmission line includes 31 tower structures within Mohave ground squirrel habitat, with 7 of these tower structures also within desert tortoise habitat. The typical height of the transmission line tower structures within the Pine Tree Canyon portion of the transmission line would be 80 to 95 feet. All but three of the transmission line tower structures within the Pine Tree Canyon area would be a single pole (or monopole) design and made of concrete. The diameter of these monopole tower structures would be about 4 feet at the base, narrowing toward the top. The concrete monopole tower structures would be set in a drilled hole with no foundation. The remaining three tower structures in the Pine Tree Canyon area would be lattice type tower structures. Each lattice tower structure would have four legs; four concrete cast in-place footings would anchor the legs of the lattice tower structure to the ground. Each of the footings for the lattice tower structures would be up to 5 feet in diameter. The average span length between tower structures would be roughly 500 to 600 feet, or approximately 10 tower structures per mile.

Monopole tower structures, wires, and conductors have been designed to discourage perching and prevent electrocution of birds. The design is patterned after guidance provided by BLM. The transmission line will include three conductor wires that would be strung on Horizontal Vee hardware assemblies on each tower. The Horizontal Vee assembly angles downward from the tower at a 45-degree angle to a strut insulator supporting the conductor wire. Two conductor wire assemblies would be placed on one side of the tower with one conductor wire assembly on the opposite side. The strut insulator would be attached horizontally between the conductor wire and tower to keep the conductor wire a minimum of 6 feet from the tower. A 15-foot vertical distance would be maintained between the two conductor wires on the same side of the pole. The lowest conductor wire would be a minimum of 25 feet from the ground at its low point between towers. The Horizontal Vee assemblies are made of fiberglass and angle downward to discourage birds from perching. The insulators, though horizontal, are made of silicon and are grooved to discourage perching. A fiber-optic wire would be hung on the towers between the site substation and the switching station to provide communications. The monopole tower structures have a 13-square-foot permanent impact area.

Within habitat for desert tortoise, one lattice tower structure would be constructed. This tower would be located at the switching station near Highway 14 and along the existing Inyo-Rinaldi 230-kV transmission line (Figure 3), which is composed of lattice towers. Within Mohave ground squirrel habitat, two additional lattice-type towers would be constructed. The lattice tower structures have a 63-square-foot permanent impact area.

During construction of the transmission line, temporary tower site work areas and pull/tensioning sites would be required. The 31 tower site work areas and 6 pull and tensioning sites within Mohave ground squirrel habitat (7 of these tower site work areas and 2 of the pull and tensioning sites are within desert tortoise habitat) would result in temporary disturbance (Table 1). The temporary tower site work areas measure 150 feet by 150 feet. The four temporary pull sites for transmission lines average 150 feet by 300 feet each, whereas the two temporary pull site for fiber-optic cable average 100 feet by 150 feet each. There will be no grading at the temporary tower structure work areas or the pull and tensioning sites. Rather, vegetation will be crushed and the disturbance will be temporary.

The permanent switching station would be constructed on private land adjacent to the existing Inyo-Rinaldi 230-kV transmission line right-of-way, approximately 1,500 feet north of where the this transmission line crosses the existing dirt road at the mouth of Pine Tree Canyon. The station would be constructed between the Inyo-Rinaldi 230-kV transmission line tower structures, adjacent to the east side of the right-of-way. The switching station is within Mohave ground squirrel and desert tortoise habitat and would be 500 feet long by 250 feet wide, or 125,000 square feet (about 2.9 acres) (Table 1). Within the yard of the station, there would be a control room and/or communication room(s) in addition to the electrical switching equipment. The switching station would not be staffed on a daily basis. Equipment piers and foundations and the cable trench would be reinforced concrete. A 25-foot-wide compacted roadway would be built around station equipment, and the remainder of the yard would have a crushed rock surface to a depth of 6 inches.

Routine maintenance of the transmission line and switching station operations would be necessary to maximize performance and detect potential problems. The switching station would not be staffed on a daily basis, and no additional employees would be required. The transmission line normally will be inspected by helicopter, but inspections could generate ground traffic on access roads roughly once per year over the long term. This traffic would occur in Pine Tree Canyon primarily on the existing roads. In the event of the need to travel to a tower structure(s) where no permanent road exists, personnel would carefully drive overland from the nearest existing road location. For the switching station, one or two visits per day to the switching station would be the highest level of activity. The switching station is accessed from the existing Pine Tree Canyon Road and an existing graded patrol road that runs along the Inyo-Rinaldi line. Periodic maintenance activities for the transmission line could include cleaning of the line conductors and repair of equipment damaged by wind, dust, or accident. Activities could also include road and drainage structure repairs. Such activity would occur infrequently, perhaps once per year. These O&M activities could result in a low level of impacts to desert tortoise and Mohave ground squirrel individuals; however, no direct impacts to desert tortoise or Mohave ground squirrel habitat are anticipated as a result of O&M activities. During O&M activities in desert tortoise and Mohave ground squirrel habitat, precautions would be implemented similar to those required during project construction to mitigate potential impacts that would result from these activities.

B. *Access Roads*

Jawbone Canyon Road is the proposed construction and maintenance access to the wind turbine site and the substation. Pine Tree Canyon would provide construction access for all of the transmission line tower structures. Existing roads within the Project area are proposed for use whenever possible. At times these existing roads must be widened to accommodate construction traffic, which would result in a permanent impact. New access roads are proposed for a few locations to provide access for construction and/or O&M activities as described below.

Within Jawbone Canyon, approximately 11.0 miles of existing road occur within Mohave ground squirrel habitat and 9.3 miles occur within desert tortoise habitat (Figure 3). Approximately six miles of these areas occur in the Jawbone Off Highway Vehicle Use Area and would not represent a habitat impact. In two places in upper Jawbone Canyon, the existing access road must be widened to accommodate construction traffic resulting in a permanent impact to 0.40 acre of Mohave ground squirrel habitat. No impacts to desert tortoise habitat would occur in Jawbone Canyon.

Within Pine Tree Canyon, approximately 2.4 miles of existing road occurs within sensitive wildlife habitat (2.4 miles in Mohave ground squirrel habitat, with 1.3 miles of this road also occurring within desert tortoise habitat) (Figure 3). These roads will be used for access during construction to most of the tower structures and for O&M activities. A short section of the road on the south side of Pine Tree Wash near the wash crossing would be improved to accommodate construction traffic. In addition, new roads, with a 14-foot-wide travel lane and 5-foot-wide drainage buffers on each side (total 24-foot disturbed area) will be constructed in several areas. There will be four short spur roads constructed to transmission tower structures in Pine Tree Canyon, resulting in a permanent impact to 0.59 acre of Mohave ground squirrel habitat. There will be one new road constructed over the second Los Angeles Aqueduct partially within desert tortoise and within Mojave ground squirrel habitat that would result in a temporary impact to 0.07 acre of desert tortoise habitat and 0.23 acre of Mohave ground squirrel habitat. The permanent impact to desert tortoise habitat is necessary to provide access for construction traffic across the second Los Angeles Aqueduct. Also, there will be an ungraded road 14 feet wide used for construction access to the first 7 tower structures (within desert tortoise habitat) that results in temporary impact to desert tortoise and Mohave ground squirrel habitat. Altogether, road construction and use in Pine Tree Canyon results in 1.79 acres of temporary impact and 0.07 acre of permanent impact to desert tortoise habitat, and 1.79 acres of temporary impact and 1.14 acres of permanent impact to Mohave ground squirrel habitat (Table 1).

C. *Staging and Stockpile Areas*

Several temporary staging and stockpile areas would be located throughout the project property during construction. A small concrete batch plant would also be located at one of the laydown and staging areas to provide concrete and materials for the turbine, substation, and O&M building foundations. Two staging areas (5.81 acres) occur in potential Mohave ground squirrel habitat in Jawbone Canyon (Table 1). One staging area (1.5 acres) occurs in potential Mohave

ground squirrel habitat in Pine Tree Canyon (Table 2) and no staging or stockpile areas occur in potential habitat for desert tortoise in either Jawbone Canyon or Pine Tree Canyon.

Covered Species: This Permit covers the following species:

Name	Status[3]
Gopherus agassizii Desert tortoise	State-listed Threatened
Spermophilus mohavensis Mohave ground squirrel	State-listed Threatened

These species and only these species are hereinafter referred to as "Covered Species."

Impacts to Covered Species:

Impacts to Covered Species include the following:

- Covered Species could potentially be injured or killed by vehicle or other construction equipment.
- Covered Species could potentially be injured or killed because of collapsed or excavated burrows.
- Predation of desert tortoises may be increased in the work area if common predators are attracted by human activity.
- Uninformed workers could move, collect or vandalize Covered Species at the work site.
- Improper handling of the desert tortoise by humans could spread harmful diseases.
- Permanent loss of 5.05 acres of occupied habitat and the temporary loss of 27.45 acres of occupied habitat could result in mortality of Covered Species. Habitat loss was determined by calculating the amount of undisturbed land to be affected by Project construction within the Project footprint.

Incidental Take Authorization:

The Department authorizes the Permittee, its employees, contractors, and agents to take Covered Species incidentally in carrying out the Project, subject to terms and conditions identified below. This Permit does not authorize any intentional take of Covered Species,

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[3] Refers to status under CESA. Under CESA, a species may be on the list of endangered species, the list of threatened species, or the list of candidate species.

except for capture and relocation required by this Permit, and does not authorize take of Covered Species from activities outside the scope of the Project as described above, or take of Covered Species resulting from a permit violation.

Conditions of Approval:

The Department's issuance of this Permit and the Permittee's authorization to take the Covered Species are subject to the Permittee's compliance with and implementation of the following conditions of approval:

General Provisions

1. The Permittee shall comply with all applicable state, federal, and local laws in existence on the effective date of this Permit or adopted thereafter.

2. The Permittee shall fully implement and adhere to the avoidance, mitigation, and compensation measures set forth in this Permit, within the time frames set forth in the Permit and in Attachment E, the Mitigation Monitoring and Reporting Program ("MMRP"). LADWP's adopted Environmental Impact Report ("EIR") for the Pine Tree Wind Development Project (SCH#2004041076) includes mitigation measures that are related to desert tortoise or Mohave ground squirrel or the species' habitat. All of the measures related to Covered Species and their habitat that are included in the EIR shall be implemented by Permittee, except that compensation for permanent impacts to habitat shall be governed by the conditions of this Permit, which requires additional mitigation.

3. No employees or contractors are allowed to have firearms onsite. Workers may not bring pets, including domestic dogs, onsite.

4. Upon Project completion, all construction refuse, including, but not limited to, broken equipment parts, wrapping material, cords, cables, wire, rope, strapping, twine, buckets, metal or plastic containers, and boxes shall be removed from the site and disposed of properly.

5. Used vehicle and equipment fluids shall be transported to an appropriate off-site disposal location. Fuel and lubricant storage and dispensing locations shall be constructed to fully contain spilled materials until disposal can occur. Hazardous waste, including used motor oil waste and coolant, shall be stored and transferred in a manner consistent with applicable regulations and guidelines. The use of herbicides, pesticides, and chemicals that could be harmful to the Covered Species is not authorized by this Permit. Exceptions may be coordinated with the Department on a case-by-case basis.

6. The Permittee shall provide the Department's Regional Representative (see "Notices" section) with written detailed construction and excavation plans, including engineering drawings, a minimum of 30 days prior to ground disturbing activities, unless approved by the

Department. The plans shall include all of the protection and restoration features and techniques that have been made part of the construction contract, consistent with any Project modifications that have been made since the Permit application was submitted.

7. The Permittee shall designate a field contact ("Project Representative") who shall be responsible for overseeing compliance with the Conditions of Approval set forth in this Permit and for coordinating with the Department. This Project Representative shall provide the Department's Regional Representative with immediate reports of any change in the Project from that described in LADWP's Final EIR (SCH#2004041076) and Incidental Take Permit Application (October 24, 2005) for the Pine Tree Wind Development Project, or any deviation from the Conditions of Approval of this Permit. This Permit may require amendment if additional take of Covered Species may result from Project modification. The Permittee has designated Charles Holloway as the Project Representative. The Permittee shall notify the Department immediately of any change of Project Representative.

8. Covered Species shall only be handled by Authorized Biologists. Authorized Biologists are defined as biologists who have experience handling desert tortoise, have experience with Mohave ground squirrel biology and are authorized by the Department. To allow time for such authorization, the Permittee shall submit to the Department the names and credentials of the proposed Authorized Biologist(s) at least 15 days prior to the time that they may need to handle Covered Species. Desert tortoise and their eggs shall be handled according to the procedures described in the *Guidelines for Handling Desert Tortoise During Construction Projects*, Desert Tortoise Council, Rev. 1999, Edward L. LaRue, Jr., Ed. ("Tortoise Handling Guidelines"). A copy of these guidelines is attached for reference (Attachment A). The Authorized Biologist(s) shall ensure compliance with the Conditions of Approval provided in this Permit and shall have authority to immediately stop any activity that is not in compliance with this Permit or order any reasonable measures to avoid the take of an individual of a Covered Species.

9. This Permit may be amended without the concurrence of the Permittee if the Department determines that continued implementation of the Project under these Conditions of Approval would jeopardize the continued existence of a Covered Species or that Project changes or changed biological conditions necessitate a Permit amendment to ensure that impacts to the Covered Species are minimized and fully mitigated.

10. The Department may issue the Permittee a written stop-work order to suspend any activity covered by this Permit for an initial period of up to 25 days to prevent a violation of this Permit or the illegal take of an endangered, threatened or candidate species. The Permittee shall comply with the stop-work order immediately upon receipt thereof. The Department may extend a stop-work order under this provision for a period not to exceed 25 additional days, upon written notice to the Permittee. If take avoidance cannot be implemented, the Department shall commence the formal suspension process pursuant to California Code of Regulations, Title 14, Section 783.7 within (5) five working days of issuing a stop-work order.

11. The Permittee shall provide Department representatives with reasonable access to the Project site and mitigation lands under its control, and shall otherwise fully cooperate with

Department efforts to verify compliance with or the effectiveness of mitigation measures.

12. Neither the Authorized Biologist(s) nor the Department shall be liable for any costs incurred in complying with the management measures, including cease-work orders.

13. Notwithstanding any expiration date on this Permit's take authorization, the Permittee's obligations under this Permit do not end until the Department accepts the Final Mitigation Report as complete.

14. Unless otherwise determined, the Department's Regional Representative shall be:
    Julie Vance, Senior Environmental Scientist
    1234 East Shaw Avenue
    Fresno, California 93710
    559.243.4014, Extension 222.

Avoidance Measures/Minimization of Take

The avoidance of direct take of Covered Species is the first priority for their protection. The second priority is the relocation of Covered Species that are discovered within the work area, prior to ground disturbing activities and also during the entire Project construction period.

15. LADWP shall conduct a worker education program for all construction and maintenance personnel. Construction crews, foremen, contractors, subcontractors, and other personnel potentially working on the proposed Project site shall participate in the education program to familiarize themselves with the particular biological resources, restrictions and conditions of the area. Practices and information covered by this program shall include speed limits, firearm prohibition, encounters with Covered Species, staying within designated construction areas, pet prohibition, agency notification, checking under vehicles, trash and litter management, training on any special status species within the proposed Project area, Covered Species and habitat identification, techniques to avoid impacts to Covered Species, consequences of taking a Covered Species, and reporting procedures when encountering Covered Species. The text of the worker education program shall be submitted to the Department at least 10 working days prior to the initiation of construction. Upon completion of the orientation, employees shall sign a form stating that they attended the program and understand all protection measures. These forms shall be maintained by LADWP and shall be made available to the Department upon request. Workers shall receive and be required to visibly display a hardhat sticker or certificate that they have completed the training. After initial project construction and for the life of this Permit, the worker education program will be repeated annually for O&M employees, and will be routinely administered within one week of arriving on site to any new construction personnel, foremen, contractors, subcontractors, and other personnel potentially working within the Project area.

16. A construction-monitoring notebook shall be maintained by the Authorized Biologist on site throughout the construction period and shall include, at a minimum, a copy of the Incidental Take Permit for the Covered Species (including attachments) and the Mitigation Monitoring and Reporting Programs adopted by the CEQA Lead Agency and by the Department. A list

of signatures for all personnel who have successfully completed the worker education program shall be maintained by LADWP. LADWP shall demonstrate compliance with this measure by maintaining a copy of the construction-monitoring notebook, including a list of the names and workers who have completed the required worker education program, available for review upon request by the Department.

17. Disturbance beyond an actual work/construction site shall be avoided by using existing roads to the site. Vehicle and equipment movement shall be restricted to designated routes and work site locations. Cross-country travel (travel off existing roads) is prohibited except when absolutely required by the Project and as explicitly described in the Permit. If unauthorized off-road vehicle/equipment use occurs, continued operations may be halted by the Department until the violation is remedied. LADWP may consider other measures, such as posting signs and installing physical barriers as necessary.

18. A single temporary access road shall be created for the transmission line, not individual access roads to individual towers. New and existing roads that are planned for either construction or widening shall not extend beyond the planned impact area. All vehicles passing or turning around shall do so within the planned impact area or in previously disturbed areas. No berms shall be placed along dirt roads to ensure that tortoises are able to move between habitat fragments. Where new access is required outside of existing roads or the construction zone, the route shall be clearly marked (i.e., flagged and/or staked) prior to the onset of construction. Cross-country access shall be the standard for temporary activities. To the extent possible, access to the project site shall be restricted to designated "open" routes of travel. A qualified biologist shall select and flag the access route, whether cross-country or bladed, to avoid burrows and to minimize disturbance of vegetation.

19. Construction of the transmission line from poles 1 through 7 will be done without any new road construction to reduce permanent disturbed areas and eliminate blading. Cross-country travel is authorized for this construction.

20. The Permittee shall clearly delineate the boundaries of any work sites with fencing, stakes, or flags and shall similarly delineate the limits of construction sites. All Project-related parking and equipment storage shall be confined to those areas that are identified as places where habitat disturbance will occur or within other already disturbed areas devoid of habitat. Undisturbed areas shall not be used for parking or equipment storage. Project-related vehicle traffic shall be restricted to established roads, construction areas, storage areas, and staging and parking areas. The Authorized Biologist shall provide guidance regarding the above activities.

21. Workers shall inspect for Covered Species under vehicles and equipment every time the vehicles and equipment are moved. If a Covered Species is present, the worker shall wait for the Covered Species to move to a safe location. Alternatively the Authorized Biologist(s) shall be contacted to determine if the animal may be safely moved within the conditions of the Permit.

22. Vehicle speeds shall not exceed 20 miles per hour on ungraded roads through Covered Species habitat and 25 miles per hour on graded and paved roads through Covered Species habitat (applicable to Project roads in Jawbone Canyon and Pine Tree Canyon).

23. The development of all temporary access and work roads associated with construction shall be minimized and constructed without blading where feasible. The Authorized Biologist shall ensure that blading is conducted only where necessary.

24. No more than 30 days prior to ground disturbing activities, the Authorized Biologist(s) shall be present to perform a pre-construction survey for Covered Species and shall remain on site until temporary exclusion fencing has been installed to preclude desert tortoises from entering the work area. These surveys shall cover the existing access routes, and the proposed construction right-of-way ("ROW") with a 50-foot buffer zone. All potential dens and burrows within the construction ROW shall be flagged to alert biological and work crews to their presence. A report documenting the results of the pre-construction surveys shall be submitted to the Department within 30 days after performing them.

25. The Permittee shall develop a translocation plan for desert tortoise and Mohave ground squirrels prior to the start of the surveys for Covered Species required by Conditions 29, 30, and 31, below. The translocation plan shall be submitted to the Department for review and approval prior to the start of ground disturbing activities.

26. Prior to any surface disturbance, the Permittee shall install temporary desert tortoise-proof exclusion fencing (exclusion fence) around the perimeter of all the Project work areas, with the exception of the switching station, where permanent fencing shall be installed (see Condition 28). For linear portions of the project area, temporary exclusion fencing may be done in a sequential manner (e.g. not simultaneously). The Permittee may conduct activities without installing temporary exclusion fencing for some types of limited duration construction impacts if an Authorized Biologist(s) is present at all times to monitor activities and ensure impacts to Covered Species are minimized. These exceptions shall be proposed to and approved by the Department in writing prior to implementation.

27. Temporary desert tortoise exclusion fencing shall be located to avoid tortoise burrows and located so that the burrows are isolated from the active work areas when possible. The Authorized Biologist(s) shall accompany the exclusion fence construction crew(s) to ensure that desert tortoises are not killed or injured during fence installation. The exclusion fence shall be constructed according to United States Fish and Wildlife Service ("USFWS") guidelines (Attachment B) and shall consist of wire mesh fencing sized 1-inch by 2-inches. It shall extend a minimum of 18 inches above ground with the lower six inches folded and securely fastened against the ground to prevent tortoise entry. The exclusion fence shall be supported sufficiently to maintain its integrity under all conditions such as wind and heavy rain for the duration of the active construction period. All openings in the exclusion fence lines shall be constructed such that they prohibit tortoise passage or passively direct the tortoise back into suitable natural habitat. The exclusion fence shall be checked at least once weekly and maintained/repaired when necessary by the Permittee.

28. Prior to initial ground disturbance, the Permittee shall install permanent desert tortoise-proof exclusion fencing (permanent exclusion fence) around the perimeter of the switching station.

Permanent exclusion fencing shall be located to avoid tortoise burrows and when possible located so that the burrows are isolated from the active work areas. The Authorized Biologist(s) shall accompany the exclusion fence construction crew to ensure that desert tortoises are not killed or injured during this activity. The permanent exclusion fence shall be constructed according to the USFWS guidelines (Attachment B) of wire mesh fencing sized 1-inch by 2-inches. The permanent exclusion fence shall be supported sufficiently to maintain its integrity under all conditions such as wind and heavy rain for the duration of the active construction period. All openings in the exclusion fence lines shall be constructed such that they prohibit tortoise passage or passively direct the tortoise back into suitable natural habitat. The exclusion fence shall be checked at least daily during construction activities, at least once every three months after construction completion, and maintained when necessary by the Permittee.

29. After the installation of the temporary and permanent exclusion fencing and prior to any ground disturbance within the fenced areas, the Authorized Biologist(s) shall examine the Project area for desert tortoises and Mohave ground squirrels and their burrows. The survey shall provide 100 percent coverage of the Project limits. The use of specialized equipment (e.g. fiber optics) may be necessary to thoroughly inspect all burrows. The Authorized Biologist(s), using the methods described in the Tortoise Handling Guidelines shall capture, collect measurement and identification data, permanently mark, and relocate any desert tortoises found within the fenced/bermed Project area to suitable, undisturbed habitat that has been previously designated by the Department. The Permittee shall follow the provisions in the Department-approved translocation plan for tortoise and Mohave ground squirrels. The Authorized Biologist(s) shall also conduct surveys in the area immediately outside of the exclusion fence for Covered Species and shall conduct periodic inspections of the exclusion fence itself to ensure its integrity. Particular attention shall be given after rainstorms, especially where the fence has been constructed in washes.

30. Any burrows present within the portion of the Project area to be disturbed, and that are suspected or known to be occupied by the Covered Species, will be fully excavated by hand by the Authorized Biologist(s). Any Mohave ground squirrels encountered in the excavated burrows during their active period will be allowed to escape out of harm's way. Mohave ground squirrels encountered during their dormant period will be collected and moved to an artificial burrow. The Authorized Biologist(s) will consult with the Department prior to ground disturbing activities regarding the need and protocol for taking and preserving tissue/fluid samples from live animals.

31. Any desert tortoises found within the portion of the Project area to be disturbed will be moved off of the work site to a point 300-1000 feet from the nearest work site boundary, or an alternate location approved by the Department. If a desert tortoise is found above ground, it will be released above ground. Any desert tortoise removed from a burrow shall be relocated to a location pre-approved by the Department, and to an unoccupied burrow of similar size. If no such burrows are available for relocating, an artificial burrow shall be constructed that is approximately the same size, depth, and orientation as the original burrow. Protocols found in the Tortoise Handling Guidelines shall be followed for the construction of artificial burrows. The position of all tortoise burrows, tortoises, and

relocation sites shall be recorded using GPS technology. All potential or actual desert tortoise burrows present within the work site will be collapsed after establishing that they are not currently occupied by desert tortoise, in order to prevent re-occupancy.

32. Procedures for handling tortoise shall also follow those described by the Desert Tortoise Council in the Tortoise Handling Guidelines. During all handling procedures, tortoises must be treated in a manner to ensure that they do not overheat, show signs of overheating (e.g., gaping, foaming at the mouth, etc.), or are placed in a situation where they cannot maintain surface and core temperatures necessary to their well-being. Desert tortoises must be kept shaded at all times until it is safe to release them. For the purposes of this Permit, ambient air temperature must be measured in the shade, protected from wind, at a height of two inches (five centimeters) above the ground surface. No desert tortoise shall be captured, moved, transported, released, or purposefully caused to leave its burrow for whatever reason when the ambient air temperature is above 95 degrees Fahrenheit (35 degrees Celsius). No desert tortoise shall be captured if the ambient air temperature is anticipated to exceed 95 degrees Fahrenheit (35 degrees Celsius) before handling or processing can be completed. If the ambient air temperature exceeds 95 degrees Fahrenheit (35 degrees Celsius) during handling or processing, desert tortoise shall be kept shaded in an environment that does not exceed 95 degrees Fahrenheit (35 degrees Celsius), and not be released until ambient air temperature declines to below 95 degrees Fahrenheit (35 degrees Celsius). In an effort to prevent further spread of Upper Respiratory Tract Disease (URTD), plastic gloves shall be used whenever biologists handle desert tortoises. After handling each desert tortoise, gloves shall be disposed of and all equipment that came into contact with the tortoise shall be sterilized. Only Authorized Biologists shall handle desert tortoises.

33. In the event that an active desert tortoise nest is detected during pre-construction burrow excavation or during construction activities, procedures outlined in Attachment 3 of the Tortoise Handling Guidelines shall be followed. The Department shall be notified immediately upon discovery of an active desert tortoise nest, and the site of egg relocation shall be approved by the Department prior to relocation.

34. The Authorized Biologist shall maintain a record of all desert tortoises handled. This information shall include for each tortoise: a) the locations (narrative and maps) and dates of observation; b) general condition and health, including injuries, state of healing and whether desert tortoise voided their bladders; c) location moved from and location moved to (using GPS technology); d) diagnostic markings (i.e., identification numbers or marked lateral scutes); e) ambient temperature when handled and released; and f) digital photograph of each handled desert tortoise as described below. Desert tortoise moved from within Project areas shall be marked for future identification. An identification number using the acrylic paint/epoxy covering technique shall be placed on the fourth left costal scute as described in the Tortoise Handling Guidelines. Digital photographs of the carapace, plastron and fourth costal scute shall be taken. No notching of scutes will be done.

35. In the event that the Authorized Biologist(s) specifically identifies Mohave ground squirrels utilizing burrows inside of the fenced work areas, the Department shall be consulted regarding the need for a trapping effort to relocate these animals. The scope and timing of

any trapping program and the identification of relocation sites shall be determined by the Department. The approach selected may vary depending on ambient air temperature and season, to best protect the squirrels.

36. During Project implementation, all workers shall inform the Authorized Biologist(s) if a Covered Species is seen within or near the Project area. All work in the vicinity of the Covered Species which could injure or kill the animal, shall cease until the Covered Species is moved by the Authorized Biologist(s) or it moves from the construction area of its own accord.

37. All open holes and trenches within habitat shall be inspected at the beginning of the day, middle of the day, and end of day for trapped animals. If Covered Species are trapped, the Authorized Biologist(s) shall be notified immediately. The Covered Species shall be allowed to escape or shall be moved and relocated by the Authorized Biologist(s) before work continues at that location.

38. All personnel entering the Project area shall be required to properly dispose of food, trash or other waste that may attract predators. The Permittee shall provide trash receptacles that are equipped with latching or locking lids and the contents shall be removed and disposed of properly at regular intervals (at least once per week).

39. LADWP shall stockpile vegetation grubbed or bladed from the project site and access road. Following completion of the project, those portions of the access road not needed for monitoring the new power line shall be restored to approximate pre-project condition and the stockpiled vegetation randomly spread across the recontoured area. In areas where the impact is temporary, topsoil shall also be stockpiled and stored, so that once the area is returned to grade it can be put back in place.

40. During O&M activities that follow initial construction, all personnel working at the site shall obey speed limits and have participated in a contractor education program.

41. Temporary impacts from ground-disturbing O&M activities with less than a 500-square-foot impact to desert tortoise habitat (i.e., clearing a culvert) shall be restored in place rather than mitigated off-site. LADWP shall have an Authorized Biologist present to ensure implementation of the avoidance and minimization measures stated elsewhere in this Permit. The Authorized Biologist shall also perform a pre-construction survey for Covered Species no more than 30 days prior to start of O&M activities with less than a 500-square-foot impact. The Authorized Biologist(s) shall remain on site during times of ground disturbing activity if pre-construction surveys indicate presence of Covered Species within, or adjacent to, the maintenance area. These surveys shall cover all access routes and the proposed maintenance right-of-way with a minimum 50-foot buffer zone. All potential dens and burrows within the construction ROW shall be flagged to alert biological and work crews to their presence. A report documenting the results of the pre-activity surveys shall be submitted to the Department within 30 days after performing them. Annual O&M compliance reports shall be provided to USFWS, BLM, and CDFG as described in the reporting section of this Permit.

42. Impacts from ground-disturbing O&M activities that may result in an impact to habitat (e.g. not on existing roads, etc.) greater than 500 square feet are not authorized by this Permit. The Permittee shall request a permit amendment if O&M impacts of this type are

anticipated, and shall not conduct such activities until a permit amendment is issued by the Department.

Mitigation Measures/Compensation for Take

The Project will cause permanent impacts that will result in the permanent loss of 5.05 acres of occupied habitat and the temporary loss of 27.45 acres of occupied habitat for the Covered Species.

43. To compensate for this loss, the Permittee shall purchase and deed to the Department 42.6 acres of high quality desert tortoise/Mohave ground squirrel habitat within established conservation areas. Acquisition priority will be given to lands adjacent to existing mitigation lands being managed for the benefit of the Covered Species, which does not include lands open to the public for multiple uses. These Habitat Management ("HM") Lands to be purchased must be of higher value for the Covered Species than the habitat that will be lost due to Project implementation, and must be approved by the Department. Lands to be purchased must also currently support Mohave ground squirrel, and every attempt should be made to purchase a contiguous block of habitat with a minimal edge to volume ratio.

44. Prior to initiating ground-disturbing Project activities, or no later than 18 months from the first date of ground disturbance, if security is provided pursuant to Condition 44(f) below, Permittee shall acquire and permanently preserve 42.6 acres of HM Lands that the Department has determined will provide suitable mitigation for impacts to the Covered Species. A minimum of three months prior to acquisition of the HM Lands, the Permittee shall submit to the Department for approval, a formal Proposed Lands For Acquisition Form (see Attachment C) identifying 42.6 acres of land to be purchased as mitigation for Project impacts. The HM Lands are expected to be acquired in Kern County in the general vicinity of the Desert Tortoise Natural Area. The required acreage is based upon the Department's estimate of the acreage required to provide for adequate biological carrying capacity at a replacement location as a means of fully mitigating the Project's impacts on the Covered Species. The Department's approval of the HM Lands acquisition must be obtained prior to acquisition and transfer by use of the Proposed Lands For Acquisition Form (see Attachment C) or by other means specified by the Department.

As part of this condition, the Permittee shall:

a) Preliminary Report: Provide a recent preliminary title report, initial hazardous materials survey report, and other necessary documents. All documents conveying the HM Lands and all conditions of title are subject to the approval of the Department, the Fish and Game Commission, and if applicable, the Department of General Services.

b) Title: Transfer fee title to the HM Lands to the Department under terms approved by the Department.

c) As an alternative to the Department holding fee title to the HM Lands, a third-party approved by the Department may hold title. If fee title to the HM Lands is held by an

approved third-party, a conservation easement will be recorded in favor of the Department in a form approved by the Department. The endowment fund for these lands will be paid to and held by the Department. The Permittee and the third-party shall provide documentation of the title holder's obligations for effecting the Permittee's mitigation requirements, including conditions that provide for the transfer of title to the Department if the third-party defaults on its responsibilities.

d) Enhancement Fund: Provide for the initial protection and enhancement of the HM Lands as determined by the Department once the Permittee identifies HM Lands. The department estimates that initial protection and enhancement will be approximately $200.00/acre. Alternatively, the Permittee may fund the Department's initial protection and enhancement of the lands by providing to the Department the amount of $8,520.00 ($200.00/acre).

e) Endowment Fund: Prior to ground disturbing Project activities, the Permittee shall conduct a Property Analysis Record (PAR), or PAR-like analysis (see discussion in Attachment D) to determine the appropriate endowment amount to fund management of the 42.60 acres of acquired HM Lands in perpetuity. Permittee shall provide the PAR generated endowment amount to the Department after the Department reviews and approves the PAR. Alternatively, the Permittee can provide to the Department a permanent capital endowment in the amount of $34,080.00 (42.6 acres x $800.00 per acre). This per acre amount is based on PAR analyses conducted previously on comparable lands in the West Mojave Desert. Interest from the endowment amount shall be available for reinvestment to the principal and for the long-term operation, management, and protection of the HM Lands, including reasonable administrative overhead, biological monitoring, improvements to carrying capacity, law enforcement measures, and any other action designed to protect or improve the habitat values of the HM Lands. The endowment principal shall not be drawn upon unless such withdrawal is deemed necessary by the Department to ensure the continued viability of the species on the HM Lands. Monies received by the Department pursuant to this provision shall be deposited in the Fish & Game Mitigation and Protection Endowment Principal Account established in the Special Deposit Fund pursuant to Fish & Game Code section 13014(a)(1). The Department may pool the endowment with other endowments for the operation, management, and protection of HM Lands for local populations of the Covered Species.

f) Security Fund: The Permittee may proceed with ground-disturbing Project activities before fully performing all of the required mitigation (including acquisition of HM Lands), monitoring, and reporting activities only if the Permittee ensures the funding necessary to complete those activities by providing security. The security shall be an irrevocable letter of credit in the form of Attachment G, a pledged savings account, or another form of security approved by the Department's Office of the General Counsel ("Security"). The Security shall allow the Department to draw on the principal sum if the Department, at its sole discretion, determines that Permittee has failed to comply with the conditions of approval of this permit. The Security shall be approved in advance by the Office of the General Counsel regardless of the form used. The Security shall be in the amount of

$85,200.00 based on the following cost estimates. The land acquisition costs, calculated at $42,600.00 (42.6 acres at $1,000.00/acre), are based on known cost estimates of mitigation lands for past projects in the Mojave Desert area. The initial protection and enhancement costs are estimated to be $8,520.00 (42.6 acres at $200.00/acre), and an estimated $34,080.00 (42.6 acres x $800.00 per acre) is required for the long-term management and enhancement of the HM Lands. Even if the Security is provided, the Permittee must complete the required acquisition, protection, and transfer of all HM Lands no later than 18 months after the start of the ground-disturbing activities.

g) Reimbursement Fund: Provide reimbursement to the Department for reasonable expenses incurred during title and documentation review, expenses incurred from other state agency reviews, and overhead related to transfer of HM Lands to the Department to the extent reimbursement is authorized under California law. The Department estimates that this Project shall create an additional cost to the Department of no more than $3,000 for every fee title deed or easement processed.

45. To the extent authorized under California law, the Permittee shall be responsible for all land acquisition costs, including but not limited to title and document review costs, as well as expenses incurred from other state agency reviews and overhead related to the transfer of HM Lands to the Department, escrow fees, recording fees, title insurance premiums, other escrow-related fees or costs, toxic waste clearance, and other site clean-up measures.

46. The Permittee shall fully fund all expenditures required to implement the minimization and mitigation measures and to monitor compliance with and effectiveness of those measures, as well as all other related costs. This is separate from, and in addition to, the acquisition of the HM Lands, the initial protection and enhancement of the HM Lands, and the long-term management endowment funding required above.

Monitoring and Reporting

47. The Permittee shall notify the Department a minimum of (15) fifteen days prior to the start of ground-disturbing activities and shall document compliance with all provisions, conditions, and measures in this Permit.

48. All observations of Covered Species and/or their sign in the active work area shall be immediately conveyed to the Authorized Biologist. This information shall be included in the next scheduled compliance report to the Department.

49. No more than 30 days prior to ground disturbing activities at each new work site, the Authorized Biologist(s) shall be present to perform a pre-construction survey for Covered Species and shall remain on site during times of construction activity until temporary tortoise exclusion fencing to preclude desert tortoises from entering the work area has been installed. These surveys shall cover the existing access routes, and the proposed construction right-of-way with a 50-foot buffer zone. All potential dens and burrows within the construction ROW shall be flagged to alert biological and work crews to their presence. A report documenting the results of the pre-construction surveys shall be submitted to the Department within 30 days after the surveys.

50. No later than 90 days after completion of the preconstruction survey and installation of tortoise fencing in each work area, the LADWP Representative and the Authorized Biologist shall submit a written report to the Department ("90-day Report"). The 90-day Report shall document the effectiveness and practicality of the preconstruction avoidance measures, the number of Covered Species excavated from burrows, the number of Covered Species moved off-site, and the number of Covered Species killed or injured and the specific information for each. The report shall make recommendations for modifications in accordance with any adaptive management policy that may be outlined in any future USFWS Implementation Agreement or permit created and approved for the Project. The 90-day Report shall include estimates of new and cumulative surface disturbance and the actual acreage to be disturbed in that specific portion of the Project area.

51. The effectiveness of the desert tortoise exclusion fencing will be continually monitored by LADWP personnel or their contractors. A summary of any fence maintenance activities, as well as the results of the required pre-activity surveys shall be included in each annual report (see Condition of Approval no. 59).

52. The Authorized Biologist(s) shall conduct routine (weekly, at a minimum) compliance inspections during each portion of initial construction. The Authorized Biologist(s) shall check for compliance with all of the mitigation avoidance measures. All exclusion zones shall be checked to ensure that the signs, stakes, and fencing are still intact and that human activities have been restricted in these protective zones. Any non-compliance with the mitigation and monitoring requirements specified in this Permit are to be conveyed in writing to the Department within four calendar days of detection.

53. All observations of Covered Species will be submitted to the Department's California Natural Diversity Database (CNDDB) and copies of the submitted forms will be included with the 90-day report and each annual report, whichever is submitted first relative to the observation.

54. Upon locating a dead Covered Species, initial notification to the Department shall be made immediately by contacting the Department's Regional Representative by phone [559.243.4014, extension 222], email [jvance@dfg.ca.gov] or Fax [559.243.4020] and by providing information on the location, species, number of animals killed, and the Incidental Take Permit Number. Following the initial notification, a written report is to be submitted to both the Department and the USFWS within two calendar days. The report shall detail the date, time, and location of the observation, and if possible provide a photograph, cause of death (if known), and any other pertinent information. The Authorized Biologist shall collect the carcass, place it in plastic and keep it on ice or in a freezer until a Department representative can either collect the specimen or issue alternative instructions.

55. Upon locating an injured Covered Species, initial notification to the Department shall be made within 48 hours by calling the Regional office at (559) 243-4005 and providing information on the location, species, number of animals injured, and the Incidental Take Permit Number. If a Covered Species is injured as a result of Project-related activities or on the Project site, it will be immediately taken by the Authorized Biologist or qualified person to a veterinarian approved in advance by the Department. Any veterinarian bills for such injured animals will be paid by the Permittee. The Permittee shall identify the selected veterinarian prior to the start of ground disturbing activities. A rehabilitated Covered Species will be released in a location to be determined by the Department. Following the initial

notification, the Permittee shall submit a written report to both the Department and the USFWS within two calendar days. The written report shall detail the date, time, and location of the observation, and if possible provide a photograph, cause of injury (if known), any other pertinent information, and the name of the facility to which the animal was taken.

56. The Project Representative shall verify that the protective measures of this Permit are implemented. The Project Representative shall immediately notify the Department in writing if it determines that any of the avoidance, compensation, or mitigation measures were not implemented or if the Permittee anticipates for any reason that measures may not be implemented within the time period indicated. The Project Representative shall immediately notify the Department if any of the avoidance, compensation, and mitigation measures are not providing the level of protection that is appropriate for the impacts occurring, and recommendations, if any, for alternative mitigation measures.

57. The Project Representative shall maintain a record of all Covered Species encountered during Project activities and detail the locations of each occurrence (using GPS technology), the general condition and health of each individual, diagnostic markings, and any actions undertaken. All oversight activities, verifications, inspections, surveys, monitoring, and records required by this Permit shall be reported in writing to the Department by the Project Representative. Reporting of these activities shall be submitted annually and shall be received by the Department by December 31 of each year.

58. Information included in the 90-day report shall be included in the Final Mitigation Report within 90 days following the completion of initial Project construction. The Final Mitigation Report shall be the responsibility of the Project Representative and shall include, at a minimum: 1) a copy of the attached MMRP with notes showing when each of the mitigation measures was implemented; 2) all available information about Project-related incidental take of species named in the Permit; 3) information about other Project impacts on the species named in the Permit; 4) construction dates; 5) an assessment of the effectiveness of each mitigation measure in minimizing and compensating for Project impacts; 6) recommendations on how mitigation measures might be changed to more effectively minimize and mitigate the impacts of future projects on the species; and 7) any other pertinent information. The Permittee's monitoring and reporting obligations related to initial construction portions of the MMRP shall end only after the Department accepts the Final Mitigation Report as complete.

59. For the duration of this permit, the Permittee shall provide Annual Reports to the Department, USFWS, and BLM by December 31 of each year. Annual Reports shall include the location, type, and duration of O&M activities, as well as the specific equipment used, the type of habitat that was disturbed, and the individual (for each activity) and cumulative (for the calendar year) amount of ground disturbance (in square feet and/or acreage). Annual Reports shall also include results of the pre-activity biological surveys and a description of any site-specific avoidance and minimization measures that were employed.

Compliance with Other Laws:

This Permit contains the Department's requirements for the Project pursuant to CESA. This permit does not necessarily create an entitlement to proceed with the Project. The Permittee is

responsible for complying with all other applicable state, federal, and local laws.

Notices:

Written notices, reports and other communications relating to this Permit shall be delivered to the Department by first class mail at the following addresses, or at addresses the Department may subsequently provide the Permittee. Notices, reports, and other communications should reference the Project name, Permittee, and Permit Number (2081-2005-046-04) in a cover letter and on any other associated documents.

Original cover with attachment(s) to:

W. E. Loudermilk, Regional Manager
San Joaquin Valley - Southern Sierra Region
1234 East Shaw Avenue
Fresno, California 93710
Attn: Julie Vance

Copy of cover without attachment(s) to:

General Counsel
Department of Fish and Game
1416 Ninth Street, 12th Floor
Sacramento, California 95814

And:

Habitat Conservation Planning Branch
1416 Ninth Street, Suite 1260
Sacramento, California 95814

Unless Permittee is notified otherwise, the Department's Regional Representative for purposes of addressing issues that arise during implementation of permit conditions is:

Julie Vance, Senior Environmental Scientist
1234 East Shaw Avenue, Fresno, California 93710
Phone: 559.243.4014, extension 222
Email: jvance@dfg.ca.gov
Fax: (559) 243-4020

Compliance with the California Environmental Quality Act:

The Department's issuance of the Permit is subject to the California Environmental Quality Act, Public Resources Code, section 21000 et seq. ("CEQA"). The Department is a responsible agency under CEQA with respect to the Permit because of prior environmental review of the Project by the lead agency, LADWP (See generally Pub. Resources Code, §§ 21067, 21069.) The lead agency's prior environmental review of the Project is set forth in the Pine Tree Wind Development Project Environmental Assessment (EA)/Environmental Impact Report (EIR, SCH#2004041076), dated April 4, 2005. At the time that the lead agency adopted the EIR and

approved the Project it also adopted all mitigation measures described in the EIR as conditions of project approval.

In fulfilling its obligations as a responsible agency, the Department's obligations under CEQA are more limited than the lead agency. (CEQA Guidelines, § 15096, subd. (g)(1).)[4] The Department, in particular, is responsible for considering only the effects of those activities involved in the Project which it is required by law to carry out or approve and mitigating or avoiding only the direct or indirect environmental effects of those parts of the Project which it decides to carry out, finance, or approve. (Pub. Resources Code, § 21002.1, subd. (d); CEQA Guidelines, § 15096, subds. (f), (g)(1).) Accordingly, because the Department's exercise of discretion is limited to issuance of the Permit, the Department is responsible for considering only the environmental effects that fall within its permitting authority under CESA.

This Permit, along with the Department's "CEQA Findings" for the Permit and Project, which are available as a separate document, document the Department's consideration of the lead agency's EIR for the Project and the environmental effects related to issuance of the Permit. (CEQA Guidelines, § 15096, subd. (f).) The Department finds that issuance of the Permit will not result in any previously undisclosed potentially significant effects on the environment or a substantial increase in the severity of any potentially significant environmental effects previously disclosed by the lead agency. Furthermore, to the extent the potential for such effects exists, the Department finds adherence to and implementation of the conditions of project approval adopted by the lead agency, as well as adherence to and implementation of the conditions of approval imposed by the Department through the issuance of the Permit, will avoid or reduce to below a level of significance any such potential effects. The Department finds that issuance of the Permit will not result in any significant, adverse impacts on the environment.

CESA Findings:

With respect to CESA, the Department finds that, in issuing the Permit, all of the following conditions have been met:

(1) Take of Covered Species as defined in the Permit shall be incidental to the otherwise lawful activities covered under the Permit;

(2) The impacts of the take shall be minimized and fully mitigated through the implementation of measures required by this Permit and described in the Mitigation Monitoring and Reporting Program (MMRP), Attachment E. Measures include, but are not limited to: 1) compliance reports; 2) land compensation for species where habitat is impacted; and 3) an education program for all persons working on-site.

(3) The take avoidance and mitigation measures required pursuant to the conditions of this Permit and its attachments are roughly proportional in extent to the impact

[4] The "CEQA Guidelines" are found in Title 14 of the California Code of Regulations, commencing with section 15000.

of Permittee's take.

(4) The measures required by this Permit maintain Permittee's objectives to the greatest extent possible;

(5) All required measures are capable of successful implementation;

(6) The Permit is consistent with any regulations adopted pursuant to §2112 and §2114 of the Fish and Game Code;

(7) Permittee has ensured adequate funding to implement the measures required by the Permit as well as for monitoring compliance with, and the effectiveness of, those measures for the Project; and

(8) Issuance of the Permit shall not jeopardize the continued existence of the Covered Species based on the best scientific and other information that is reasonably available, and includes consideration of the species' capability to survive and reproduce, and any adverse impacts of the taking on those abilities in light of; (a) known population trends; (b) known threats to the species; and (c) reasonably foreseeable impacts on the species from other related projects and activities. The Department's finding is based, in part, on the Department's express authority to amend the terms and conditions of the Permit as necessary to avoid jeopardy.

Attachments:

Attachment A	Guidelines for Handling Desert Tortoises During Construction Projects
Attachment B	USFWS Desert Tortoise Exclusion Fencing Specifications
Attachment C	Habitat Management Land Acquisition Process Overview, Checklist, and Proposed Lands For Acquisition Form (PLFAF)
Attachment D	Property Analysis Record (PAR) Information
Attachment E	Mitigation Monitoring and Reporting Program
Attachment F	Mitigation Payment Transmittal Form
Attachment G	Letter of Credit Form

ISSUED BY THE CALIFORNIA DEPARTMENT OF FISH AND GAME

On 4/17, 2006

W. E. Loudermilk, Regional Manager
San Joaquin Valley-Southern Sierra Region

Approved as to form:

Stephen E. Adams
Deputy General Counsel

ACKNOWLEDGMENT

The undersigned: 1) warrants that he or she is acting as a duly authorized representative of the Permittee, 2) acknowledges receipt of this Permit, and 3) agrees on behalf of the Permittee to comply with all conditions of approval of the Permit. The undersigned also acknowledges that adequate funding will be made available to implement the measures required by this Permit.

By: Charles C. Holloway Date: 5/17/06
Name: Charles Holloway
Title: Environmental Assessment Manager
Los Angeles Department of Water and Power (LADWP)

California Department of Fish and Game
Inland Deserts Region
4665 LAMPSON AVE, SUITE J
LOS ALAMITOS, CA 90720

California Endangered Species Act
Incidental Take Permit No. 2081-2008-015-06

California State Lands Commission
AT&T Fiber Optic Cable Replacement Project

Authority: This California Endangered Species Act (CESA) Incidental Take Permit (ITP) is issued by the Department of Fish and Game (DFG) pursuant to Fish and Game Code sections 2081(b) and 2081(c), and California Code of Regulations, title 14, subdivision 3, chapter 6, article 1, commencing with section 783. CESA prohibits the take[1] of any species of wildlife designated as an endangered, threatened, or candidate species by the Fish and Game Commission[2]. DFG, however, may authorize the take of such species by permit if the conditions set forth in Fish and Game Code sections 2081(b) and 2081(c) are met. (See also Cal. Code Regs., tit. 14, § 783.4.)

Permittee:	**AT&T CORP.**
Name and title of principal officer:	**Ms. Peggy J. Womack**
Contact person:	**Larry Freeberg, 949-261-5414**
Mailing address:	**17671 Cowan Avenue, Suite 100** **Irvine, CA 92614**

Effective Date and Expiration Date of ITP:

This ITP shall be executed in duplicate original form and shall become effective once a duplicate original is acknowledged by signature of the Permittee on the last page of the ITP and returned to DFG's Office of the General Counsel at the address listed in the Notices section of this ITP. Unless renewed by DFG, this ITP's authorization to take the Covered Species shall expire on **December 31, 2013.**

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[1]Pursuant to Fish and Game Code section 86, "'Take' means hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture or kill."

[2]"Candidate species" are species of wildlife that have not yet been placed on the list of endangered species or the list of threatened species, but which are under formal consideration for listing pursuant to Fish and Game Code section 2074.2.

Project Location:
The Project is split between three segments. The first segment begins at the California-Nevada state line and runs through Nipton Road, totaling 10.79 miles, 9.08 miles of which have been deemed new construction. The second segment is approximately 7.0 miles in length, running from Cima Road through Halloran Summit Road. The third segment consists of two sections totaling 25.6 miles: (1) near Slash X regeneration station (near Highway 247) and the Los Angeles Department of Water and Power [(LADWP) 4.8 miles] and (2) Stoddard Wells Road from the LADWP corridor to the City of Victorville (11.68 miles). The entire Project is located within San Bernardino County.

Project Description:
The Project involves AT&T Corp. performance of fiber optic cable maintenance activities on approximately 43 miles of an approximately 190 mile cable route running from Las Vegas, Nevada to Victorville, California. The Project entails the replacement of fiber optic cable that is nearing the end of useful service. The Project focuses on areas identified by AT&T as needing maintenance, including 32 miles of direct bury cable and approximately 11 miles of existing conduit. The applicant will install approximately 35 miles of a buried $4^1/_2$-inch, three-conduit bundled Fiber Optic Cable and ancillary support facilities, in an existing 10-foot right-of-way between the California state line and Victorville, California, within an additional 10-foot-wide zone of disturbance. New build areas are those areas identified by AT&T that currently have direct bury lines and need conveyance through the appropriate conduit. The construction will result in permanent impacts to 11.11 acres of desert tortoise habitat and may result in the incidental take of individual Covered Species.

Covered Species:

This ITP covers the following species:

Name	**Status**[3]
Reptiles	
Desert Tortoise (*Gopherus agassizii*)	Threatened

This species and only this species is hereinafter referred to as the "Covered Species."

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[3] Refers to status under CESA. Under CESA, a species may be on the list of endangered species, the list of threatened species, or the list of candidate species. All other species are "unlisted."

Impacts to Covered Species:
The Project will result in permanent impacts to 11.11 acres of habitat for the Covered Species. Individuals of the Covered Species may be incidentally taken as a result of mortality due to construction activities, Project-related traffic on and off site, and habitat loss caused by the project (direct impacts). Impacts of the proposed taking on the Covered Species also include temporal losses, increased habitat fragmentation and edge effects, and the Project's incremental contribution to cumulative impacts (indirect impacts).

Incidental Take Authorization:
DFG authorizes the Permittee, its employees, contractors, and agents to take Covered Species incidentally in carrying out the Project, subject to the limitations described in this section and the Conditions of Approval identified below. This ITP does not authorize any take of Covered Species from activities outside the scope of the Project as described above; take of Covered Species resulting from violation of this ITP; or intentional take of Covered Species except for capture and relocation of Covered Species as authorized by this ITP.

Conditions of Approval:
Unless specified otherwise, the following measures shall pertain to all ground- or vegetation-disturbing activities within the Project construction boundaries, including areas used for ingress and egress routes during construction. DFG's issuance of this ITP and Permittee's authorization to take the Covered Species are subject to Permittee's compliance with and implementation of the following Conditions of Approval:

1. Permittee shall comply with all applicable federal, state, and local laws in existence on the effective date of this ITP or adopted thereafter.

2. Permittee shall implement and adhere to the mitigation measures in the Biological Resources section of the Mitigated Negative Declaration, (SCH No. 2008071076) adopted for the Project by the State Lands Commission, the lead agency for the Project under CEQA. Permittee shall also adhere to and otherwise implement any other condition of approval related to the Covered Species that the lead agency imposed as part of its approval of the Project.

3. Permittee shall fully implement and adhere to the conditions of this ITP within the time frames set forth in Attachment 1, the Mitigation Monitoring and Reporting Program (MMRP), and shall comply with any requirements of the MMRP that are not otherwise set forth in this ITP.

4. General Provisions:

4.1 Before initiating ground- or vegetation-disturbing Project activities, Permittee shall designate a representative (Designated Representative) responsible for communications with DFG and for overseeing compliance with this ITP. Permittee shall notify DFG in writing prior to commencement of ground- or vegetation-disturbing activities of the representative's name, business address, and contact information, and shall notify DFG in writing if a substitute representative is designated.

4.2 At least 30 days prior to ground- or vegetation-disturbing activities, Permittee shall submit to DFG in writing the name, qualifications, business address, and contact information for a biological monitor (Designated Biologist). The Designated Biologist shall be knowledgeable and experienced in the biology and natural history of the Covered Species, and shall be responsible for monitoring construction and/or ground- or vegetation-disturbing activities in areas of Covered Species' habitat to avoid the take of individual animals and to minimize habitat disturbance. Permittee must obtain DFG approval of the Designated Biologist prior to the commencement of Project activities.

4.3 To ensure compliance with the Conditions of Approval of this ITP, the Designated Biologist shall have authority to immediately stop any activity that is not in compliance with this ITP, and/or to order any reasonable measure to avoid the take of an individual of the Covered Species.

4.4 Permittee shall conduct an education program for all persons employed on the Project prior to their performing work on-site. The program shall consist of a presentation from the Designated Biologist that includes a discussion of the biology and general behavior of the Covered Species, information about the distribution and habitat needs of the Covered Species, sensitivity of the Covered Species to human activities, its status under CESA including legal protection, recovery efforts, penalties for violations and Project-specific protective measures described in this ITP. Interpretation shall be provided for non-English speaking workers, and the same instruction shall be provided for any new workers prior to their performing work on-site. Copies of this ITP shall be maintained at the worksite. Permittee shall prepare and distribute wallet-sized cards or a fact sheet handout containing this information for workers to carry on-site. Upon completion of the program, employees shall sign a form stating that they attended the program and understand all protection measures. These forms shall be filed at the worksite offices and be available to DFG upon request.

4.5 Permittee shall prohibit firearms and domestic dogs from the Project site and site access routes during construction and development of the Project, except those in the possession of authorized security personnel or local, State, or Federal law enforcement officials.

4.6 Permittee shall initiate a trash abatement program during pre-construction phases of the Project and shall continue the program throughout the duration of the Project. Trash and food items shall be contained in closed (raven-proof) containers and removed regularly (at least once a week) to avoid attracting opportunistic predators such as ravens, coyotes, and feral dogs.

4.7 Permittee shall clearly delineate the property boundaries of the Project site with fencing, stakes or flags and shall similarly delineate the limits of construction areas.

4.8 Project-related personnel shall access the Project site during construction and development activities using existing routes and shall not cross Covered Species' habitat outside of the Project site. Project-related vehicle traffic shall be restricted to established roads, staging, and parking areas. Vehicle speeds shall not exceed 20 mph in order to avoid taking Covered Species on the roads. If construction of offsite routes of travel will be required, DFG shall be contacted prior to carrying out such an activity. This ITP will require amendment if additional take of Covered Species may result from Project modification.

4.9 Permittee shall confine all Project-related parking, storage areas, laydown sites, equipment storage, and any other surface disturbing activities to the Project site, using to the extent possible, previously disturbed areas. Additionally, Permittee shall not use or cross Covered Species' habitat outside of the marked Project boundaries unless specifically provided for in this ITP.

4.10 Permittee shall stop/repair and clean up any fuel or hazardous waste leaks or spills on the Project site during construction and development activities at the time of occurrence. Permittee shall exclude the storage and handling of hazardous materials from the construction zone and shall properly contain and dispose of any unused or leftover hazardous products off-site.

4.11 Permittee shall provide DFG staff with reasonable access to the Project site and mitigation lands under its control, and shall otherwise fully cooperate with DFG efforts to verify compliance with or effectiveness of mitigation measures set forth in the ITP. Neither the Designated Biologist, nor DFG shall be liable for any costs incurred in complying with the Conditions of Approval, including cease-work orders issued by DFG.

4.12 Upon Project completion, Permittee shall remove from the Project site and properly dispose of all construction refuse, including, but not limited to, broken equipment parts, wrapping material, cords, cables, wire, rope, strapping, twine, buckets, metal or plastic containers, and boxes.

4.13 Notwithstanding any expiration date on this ITP's take authorization, Permittee's obligations under this ITP do not end until DFG accepts the Final Mitigation Report as complete.

5. Notification and Reporting:

5.1 Permittee shall notify DFG fourteen (14) calendar days before initiating ground- or vegetation-disturbing activities and shall document compliance with all pre-Project Conditions of Approval before initiating ground- or vegetation-disturbing activities..

5.2 Permittee shall immediately notify DFG in writing if it determines that it is not in compliance with any condition of approval of this ITP, including but not limited to any actual or anticipated failure to implement mitigation measures within the time periods indicated in this ITP and/or the MMRP. Permittee shall report any non-compliance during the construction phase to DFG within 24 hours.

5.3 Monthly Compliance Report: The Designated Biologist shall be on-site daily while construction and/or surface-disturbing activities are taking place to minimize take of the Covered Species, to check for compliance with all mitigation and avoidance measures, and to check all exclusion zones to ensure that signs, stakes, and fencing are intact and that human activities are restricted in these protective zones. These inspections shall be compiled into Monthly Compliance Reports and submitted to DFG's Regional office listed in the Notices section of this ITP. DFG may at any time increase the timing and number of compliance inspections and reports required under this provision depending upon the results of previous compliance inspections (see Condition 5.4).

5.4 Annual Status Report: Permittee shall provide DFG with an Annual Status Report (ASR) no later than January 31 of every year beginning with issuance of the ITP and continuing until DFG accepts the Final Mitigation Report identified below. Each ASR shall include, at a minimum: 1) a general description of the status of the Project site and construction activities, including actual or projected completion dates, if known; 2) a copy of the table in the MMRP with notes showing the current implementation status of each mitigation measure; and 3) an assessment of the effectiveness of each completed or partially completed mitigation measure in minimizing and compensating for Project impacts.

5.5 All observations of Covered Species and their sign, oversight activities, verifications, compliance inspections, surveys, monitoring, and records required by this ITP shall be reported in writing to DFG by the Designated Representative or Designated Biologist. Permittee shall submit this information in the next Monthly Compliance Report. DFG can change this condition at any time to require that additional reports are generated. If DFG determines the reporting schedule is inadequate, DFG will notify Permittee by letter of the new reporting schedule.

5.6 Final Report: No later than 45 days after completion of the Project, including completion of all mitigation measures, Permittee shall provide DFG with a Final Mitigation Report. The Final Mitigation Report shall be prepared by the Designated Biologist and shall include, at a minimum: 1) a copy of the table in the MMRP with notes showing when each of the mitigation measures was implemented; 2) all available information about Project-related incidental take of Covered Species; 3) information about other Project impacts on the Covered Species; 4) construction dates; 5) an assessment of the effectiveness of the ITP's Conditions of Approval in minimizing and compensating for Project impacts; 6) recommendations on how mitigation measures might be changed to more effectively minimize and mitigate the impacts of future projects on the Covered Species; and 7) any other pertinent information, including the level of take of the Covered Species associated with the Project.

5.7 If a Covered Species is killed by Project-related activities during construction, or if a Covered Species is otherwise found dead, the Designated Biologist shall be immediately notified by calling the DFG Regional Office at (760) 246-8828 and the U.S. Fish and Wildlife Service (Service) at (805) 644-1766, and providing information on the location, species, number of animals injured or killed, and the ITP Number. Following initial notification, Permittee shall send DFG and the Service a written report within two (2) calendar days. The report will include the date, time and location of the finding or incident, location of the carcass, and if possible provide a photograph, cause of death, and any other pertinent information. The Covered Species shall be salvaged according to the manual "Salvaging Injured, recently Dead, Ill, And Dying Wild, Free-Roaming Desert Tortoise (*Gopherus agassizii*)" prepared by Kristin Berry, June 2001. The Permittee shall pay to have these tortoises necropsied.

6. Other Take Minimization and Mitigation Measures for Desert Tortoise:

The avoidance of take of Covered Species is the first priority for their protection. The second priority is the relocation of Covered Species that are discovered within the work area, prior to ground- or vegetation-disturbing activities and also throughout the Project construction period. The following conditions describe management activities that shall avoid or minimize take of the Covered Species:

6.1 If a Covered Species is found on site during the preconstruction surveys, it shall be moved outside of the construction site by the Designated Biologist in accordance with guidelines developed by the Desert Tortoise Council (1999). In addition, the Designated Biologist shall have an MOU with DFG for handling Covered Species. Only the Designated Biologist, or other biologists authorized by DFG to handle Covered Species, shall be allowed to handle the Covered Species. The Covered Species shall be kept upright at all times and handled in a secure but gentle manner to minimize stress including the possibility of voiding the bladder.

6.2 Pre-construction surveys shall be conducted to locate and remove the Covered Species prior to grading or any activity which alters or disturbs Covered Species habitat or which could potentially result in harm to a Covered Species. The survey shall be conducted by the Designated Biologist no earlier than 24 hours prior to the onset of any surface disturbance.

6.3 All materials which come in contact with the Covered Species shall be used only once and then properly discarded to minimize contact with the causative factor(s) for upper respiratory tract disease.

6.4 The Designated Biologist shall approve a disposal site for materials (spoils or excess soils, etc.) prior to the materials leaving the proposed Project site. Alternatively, materials need to be placed in an authorized dumpsite or landfill.

6.5 Unavoidable burrows inhabited by the Covered Species shall be excavated using hand tools under the supervision of the Designated Biologist, with excavations permitted only prior to 12:00 noon. To prevent re-entry by a Covered Species, all burrows in the construction zone that do not contain the Covered Species shall be collapsed.

6.6 Any time a vehicle or construction equipment is parked, the ground around and under the vehicle or equipment shall be inspected for Covered Species before the vehicle or equipment is moved. If a Covered Species is observed, it shall be left to move on its own. If this does not occur within 15 minutes, the Designated Biologist shall remove and relinquish the Covered Species pursuant to Condition 6.1 above.

6.7 If a Covered Species is injured as a result of Project-related activities, it shall be immediately taken to a DFG approved wildlife rehabilitation or veterinary facility. Permittee shall identify the facility prior to the start of ground- or vegetation-disturbing activities. Permittee shall bear any costs associated with the care or treatment of such injured Covered Species. Permittee shall notify DFG and the Service immediately unless

the incident occurs outside of normal business hours. In that event DFG and the Service shall be notified no later than noon on the next business day. Notification to DFG and the Service shall be via telephone or email, followed by a written incident report. Notification shall include the date, time, location and circumstances of the incident, and the name of the facility where the animal was taken.

7. Habitat Management Land Acquisition and Funding Assurances:
Based on an analysis of the available Project-related information, DFG has determined permanent protection of compensatory habitat acreage is a necessary component of fully mitigating the Project's impacts on the Covered Species.

7.1 Prior to initiating ground- or vegetation-disturbing Project activities, or no later than 18 months from the effective date of this ITP if Security is provided pursuant to Condition 8 below, the Permittee shall acquire and permanently preserve 11.11 acres of Habitat Management Lands (HM Lands). The required acreage is based on factors including an assessment of the quality of the habitat at the Project site and DFG's estimate of the acreage required to provide for adequate biological carrying capacity at a replacement location. Prior to acquisition of the HM Lands, the Permittee shall submit to DFG for approval a formal Proposed Lands for Acquisition Form (see Attachment 2B) identifying the land to be purchased as mitigation for the Project's impacts on Covered Species. As part of this condition, Permittee shall:

7.1.1 Transfer fee title to the HM Lands to DFG under terms approved by DFG. Alternatively, a DFG-approved non-profit organization qualified pursuant to California Government Code section 65965 may hold the fee or a conservation easement over the HM Lands. In the event an approved non-profit holds title, a conservation easement shall be recorded in favor of DFG in a form approved by DFG; in the event an approved non-profit holds a conservation easement over the HM Lands, DFG shall be named third party beneficiary;

7.1.2 Provide a recent preliminary title report, initial hazardous materials survey report, and other necessary documents (see Attachment 2A and 2B). All documents conveying the HM Lands and all conditions of title are subject to the approval of DFG, the Wildlife Conservation Board, and if applicable, the Department of General Services.

7.1.3 Provide for the initial protection and enhancement of the HM Lands as determined by DFG once Permittee identifies the HM Lands. DFG estimates that initial protection and enhancement will be approximately $250.00/acre for 11.11 acres. Alternatively,

Permittee may fund DFG's initial protection and enhancement of the lands by providing the funds required, **$2,777.50**, for the initial protection and enhancement to DFG.

7.1.4 Conduct a Property Analysis Record (PAR) or PAR-like analysis once the HM Lands have been identified to determine the appropriate endowment amount to fund the in-perpetuity management of the 11.11 acres of required HM Lands. Permittee shall provide the required endowment to DFG after DFG reviews and approves the PAR. Permittee shall provide funding assurances for the endowment in the Security (see Condition 8 below). Alternatively, prior to initiation of ground- or vegetation-disturbing Project activities, Permittee shall provide to DFG a permanent non-wasting endowment in the amount of **$14,443.00** ($1,300.00/acre for 11.11 acres). Interest from the endowment amount shall be available for reinvestment in the principal and for the long-term operation, management and protection of the HM Lands, including reasonable administrative overhead, biological monitoring, improvements to carrying capacity, law enforcement measures, and any other action designed to protect or improve the habitat values of the HM Lands. Monies received by DFG pursuant to this provision shall be deposited in a special deposit account established pursuant to Fish and Game Code section 13014. Alternatively, endowment funds may be held by a DFG-approved non-profit organization qualified to hold endowment funds. DFG may pool the endowment with other endowments for the operation, management and protection of HM Lands for local populations of the Covered Species.

7.1.5 Reimburse DFG for reasonable expenses incurred during title and documentation review, expenses incurred from other state agency reviews, and overhead related to transfer of HM Lands to DFG. DFG estimates that this Project will create an additional cost to DFG of no more than $3,000 for every fee title deed or easement processed.

8. Security Funding Assurance:

8.1 Permittee may proceed with ground- or vegetation-disturbing activities before completing all of the required mitigation (including acquisition of HM Lands), monitoring, and reporting activities only if Permittee ensures funding to complete those activities by providing to DFG prior to commencing ground-disturbing activities or within 30 days after the effective date of this ITP, whichever occurs first: an irrevocable letter of credit in the form of Attachment 4 or another form of security (Security) approved by DFG's Office of the General Counsel. The Security shall allow DFG to draw on the principal sum if DFG, at its sole discretion, determines that Permittee has failed to comply with the Conditions of Approval of this ITP.

The Security shall be in the amount of **$28,330.50** based on the following estimated costs of implementing the ITP's mitigation, monitoring and reporting requirements.

a) Land acquisition costs for impacts to habitat, calculated at $1,000.00/acre for 11.11 acres: **$11,110.00**;

b) Costs of enhancing HM Lands, calculated at $250.00/acre for 11.11 acres: **$2,777.50**;

c) Endowment estimate, calculated at $1,300.00/acre for 11.11 acres: **$14,443.00**.

Even if the Security is provided, the Permittee must complete the required acquisition, protection and transfer of all HM Lands and record the required conservation easements in favor of DFG no later than 18 months after the start of the ground- or vegetation-disturbing activities.

Amendment:
This ITP may be amended without the concurrence of the Permittee if DFG determines that continued implementation of the Project under existing ITP conditions would jeopardize the continued existence of a Covered Species or that Project changes or changed biological conditions necessitate an ITP amendment to ensure that impacts to the Covered Species are minimized and fully mitigated. DFG may also amend the ITP at any time without the concurrence of the Permittee as required by law.

Stop-Work Order:
DFG may issue Permittee a written stop-work order to suspend any activity covered by this ITP for an initial period of up to 25 days to prevent or remedy a violation of ITP conditions (including but not limited to failure to comply with reporting, monitoring, or habitat acquisition obligations) or to prevent the illegal take of an endangered, threatened, or candidate species. Permittee shall comply with the stop-work order immediately upon receipt thereof. DFG may extend a stop-work order under this provision for a period not to exceed 25 additional days, upon written notice to the Permittee. DFG shall commence the formal suspension process pursuant to California Code of Regulations, Title 14, section 783.7 within five working days of issuing a stop-work order.

Compliance with Other Laws:
This ITP contains DFG's requirements for the Project pursuant to CESA. This ITP does not necessarily create an entitlement to proceed with the Project. The Permittee is responsible for complying with all other applicable state, federal, and local laws.

Notices:
The Permittee shall deliver the fully executed duplicate original ITP by first class mail or overnight delivery to the following address:

Habitat Conservation Branch
Attention: CESA Permitting Program
1416 Ninth Street, Suite 1260
Sacramento, CA 95814

Written notices, reports and other communications relating to this ITP shall be delivered to DFG by first class mail at the following addresses, or at addresses DFG may subsequently provide the Permittee. Notices, reports, and other communications should reference the Project name, Permittee, and ITP Number 2081-2008-015-06 in a cover letter and on any other associated documents.

Original cover with attachment(s) to:
Curt Taucher, Regional Manager
4665 Lampson Avenue, Suite J
Los Alamitos, CA 90720
Telephone (562) 430-7212
FAX (562) 799-8427

Copy of cover without attachment(s) to:
General Counsel
Department of Fish and Game
1416 Ninth Street, 12th Floor
Sacramento, CA 95814
And:
Habitat Conservation Planning Branch
1416 Ninth Street, Suite 1260
Sacramento, CA 95814

Unless Permittee is notified otherwise, DFG's Regional Representative for purposes of addressing issues that arise during implementation of ITP conditions is:
Mr. Eric Weiss
12550 Jacaranda Ave
Victorville, CA 92395
(760) 246-8828 phone
(760) 245-9142 fax

Compliance with the California Environmental Quality Act:
DFG's issuance of the ITP is subject to the California Environmental Quality Act, Public Resources Code, section 21000 et seq. (CEQA). DFG is a responsible agency under CEQA with respect to the ITP because of prior environmental review of the Project by the lead agency, California State Lands Commission. (See generally Pub. Resources Code, §§ 21067, 21069.) The lead agency's prior environmental review of the Project is set forth in the Mitigated Negative Declaration and Initial Study (SCH No. 2008071076) dated August 22, 2008 that the California State Lands Commission adopted for the AT&T Fiber Optic Cable Replacement Project. At the time the lead agency adopted the Mitigated Negative Declaration as conditions of Project approval.

In fulfilling its obligations as a responsible agency, DFG's obligations under CEQA are more limited than the lead agency. (CEQA Guidelines, § 15096, subd. (g)(1).)[4] DFG, in particular, is responsible for considering only the effects of those activities involved in the Project which it is required by law to carry out or approve and mitigating or avoiding only the direct or indirect environmental effects of those parts of the Project which it decides to carry out, finance, or approve. (Pub. Resources Code, § 21002.1, subd. (d); CEQA Guidelines, §§ 15041, subd. (b), and 15096, subds. (f), (g)(1).) Accordingly, because DFG's exercise of discretion is limited to issuance of the ITP, DFG is responsible for considering only the environmental effects that fall within its permitting authority under CESA.

This ITP, along with DFG's CEQA Findings for the ITP and Project, which are available as a separate document, document DFG's consideration of the lead agency's Mitigated Negative Declaration for the Project and the environmental effects related to issuance of the ITP. (CEQA Guidelines, § 15096, subd. (f).) In so doing, DFG finds that issuance of the ITP will not result in any previously undisclosed potentially significant effects on the environment or a substantial increase in the severity of any potentially significant environmental effects previously disclosed by the lead agency. Furthermore, to the extent the potential for such effects exists, DFG finds adherence to and implementation of the Conditions of Project Approval adopted by the lead agency, as well as adherence to and implementation of the conditions of approval imposed by DFG through the issuance of the ITP, will avoid or reduce to below a level of significance any such potential effects. In so doing, DFG finds that issuance of the ITP will not result in any significant, adverse impacts on the environment.

CESA Findings:
These findings are intended to comply with the findings requirement set forth in CESA and regulations adopted pursuant to CESA (Fish & G. Code § 2050, et seq.; Cal. Code Regs., tit. 14, § 783.5, subd.(d)(2)). In issuing the ITP, DFG finds that the following "CESA issuance criteria," which are found in Title 14 of the California Code of Regulations section 783.4, have been met:

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[4] The "CEQA Guidelines" are found in Title 14 of the California Code of Regulations, commencing with section 15000.

(1) Take of Covered Species as defined in the ITP will be incidental to the otherwise lawful activities covered under the ITP;

(2) Impacts of the taking of the Covered Species will be minimized and fully mitigated through the implementation of measures required by this ITP and as described in the Mitigation Monitoring and Reporting Program (MMRP). Measures include: 1) Monthly Compliance Reports; 2) establishment of avoidance zones; 3) worker education; and 4) permanent habitat protection. DFG evaluated the quality of the habitat on the Project site, the scope and extent of direct impacts, the scope and extent of indirect impacts, and other relevant information available to DFG or provided by the Permittee. Based on this evaluation, DFG determined that the protection and management in perpetuity of 11.11 acres of compensatory habitat that is contiguous with other protected Covered Species habitat and/or is of higher quality than the habitat being eliminate by the Project, along with the minimization, monitoring, reporting, and funding requirements of this ITP, meet the CESA issuance criteria;

(3) The take avoidance and mitigation measures required pursuant to the conditions of this ITP and its attachments are roughly proportional in extent to the impact of Permittee's take;

(4) The measures required by this ITP maintain Permittee's objectives to the greatest extent possible;

(5) All required measures are capable of successful implementation;

(6) The ITP is consistent with any regulations adopted pursuant to Fish and Game Code sections 2112 and 2114;

(7) Permittee has ensured adequate funding to implement the measures required by the ITP as well as for monitoring compliance with, and the effectiveness of, those measures for the Project; and

(8) Issuance of the ITP will not jeopardize the continued existence of the Covered Species based on the best scientific and other information reasonably available, and this finding includes consideration of the species' capability to survive and reproduce, and any adverse impacts of the taking on those abilities in light of (a) known population trends; (b) known threats to the species; and (c) reasonably foreseeable impacts on the species from other related projects and activities. Moreover, DFG's finding is based, in part, on DFG's express authority to amend the terms and conditions of the ITP without concurrence of the Permittee as necessary to avoid jeopardy and as required by law.

Attachments:

ATTACHMENT 1	Mitigation Monitoring and Reporting Program
ATTACHMENT 2A, 2B	Habitat Management Lands Checklist; PLFAF Form
ATTACHMENT 3	Mitigation Payment Transmittal Form
ATTACHMENT 4	Letter of Credit Form

ISSUED BY THE CALIFORNIA DEPARTMENT OF FISH AND GAME

on 9/25/08.

CURT TAUCHER, Regional Manager
INLAND DESERTS REGION

APPROVED AS TO FORM:

John H. Mattox
Senior Staff Counsel
Lead Counsel, CESA Permitting

ACKNOWLEDGMENT

The undersigned: 1) warrants that he or she is acting as a duly authorized representative of the Permittee, 2) acknowledges receipt of this ITP, and 3) agrees on behalf of the Permittee to comply with all terms and conditions of the ITP.

By: Larry R Freeberg Date: 9/23/08

Printed Name: Larry R Freeberg Title: Vice President

Attachment 1

DEPARTMENT OF FISH AND GAME
MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)
CALIFORNIA ENDANGERED SPECIES ACT

INCIDENTAL TAKE PERMIT NO. 2081-2008-015-06

PERMITTEE: AT&T Corp.
PROJECT: AT&T FIBER OPTIC CABLE REPLACEMENT

PURPOSE OF THE MMRP

The purpose of the MMRP is to ensure that the impact minimization and mitigation measures required by the Department of Fish and Game (DFG) for the above-referenced Project are properly implemented, and thereby to ensure compliance with section 2081(b) of the Fish and Game Code and section 21081.6 of the Public Resources Code. A table summarizing the mitigation measures required by DFG is attached. This table is a tool for use in monitoring and reporting on implementation of mitigation measures, but the descriptions in the table do not supersede the mitigation measures set forth in the California Incidental Take Permit (ITP) and in attachments to the ITP, and the omission of a permit requirement from the attached table does not relieve the Permittee of the obligation to ensure the requirement is performed.

OBLIGATIONS OF PERMITTEE

Mitigation measures must be implemented within the time periods indicated in the table that appears below. Permittee has the primary responsibility for monitoring compliance with all mitigation measures and for reporting to DFG on the progress in implementing those measures. These monitoring and reporting requirements are set forth in the ITP itself and are summarized at the front of the attached table.

VERIFICATION OF COMPLIANCE, EFFECTIVENESS

DFG may, at its sole discretion, verify compliance with any mitigation measure or independently assess the effectiveness of any mitigation measure.

TABLE OF MITIGATION MEASURES

The following items are identified for each mitigation measure: Mitigation Measure, Source, Implementation Schedule, Responsible Party, and Status/Date/Initials. The Mitigation Measure column summarizes the mitigation requirements of the ITP. The Source column identifies the ITP document that sets forth the mitigation measure. The Implementation Schedule column shows the date or phase when each mitigation measure will be implemented. The Responsible Party column identifies the person or agency that is primarily responsible for implementing the mitigation measure. The Status/Date/Initials column shall be completed by the Permittee during preparation of each Status Report and the Final Mitigation Report, and must identify the implementation status of each mitigation measure, the date that status was determined, and the initials of the person determining the status.

	Mitigation Measure	Source	Implementation Schedule	Responsible Party	Status / Date / Initials
BEFORE DISTURBING SOIL OR VEGETATION					
1	Before initiating ground- or vegetation-disturbing activities, Permittee shall designate a representative (Designated Representative) responsible for communications with DFG and for overseeing compliance with this ITP. DFG shall be notified in writing prior to commencement of ground- or vegetation-disturbing activities of the representative's name, business address, and contact information, and shall be notified in writing if a substitute representative is designated.	ITP Condition 4.1	Before commencing ground- or vegetation-disturbing activities/ Entire Project	Permittee	
2	A biologist (Designated Biologist) knowledgeable and experienced in the biology and natural history of the Covered Species and will be responsible for monitoring construction and/or ground- or vegetation-disturbing activities in areas of Covered Species' habitat to help avoid the take of individual animals and to minimize habitat disturbance. At least 30 days prior to ground-disturbing activities, Permittee shall submit to DFG in writing the proposed Designated Biologist's name, qualifications, business address, and contact information for review. Permittee must obtain DFG approval of the Designated Biologist prior to the commencement of ground-disturbing activities.	ITP Condition 4.2	Before commencing ground- or vegetation-disturbing activities	Permittee	
3	Permittee shall conduct an education program for all persons employed on the Project prior to their performing work on-site. The program shall consist of a presentation from the Designated Biologist that includes a discussion of the biology and general behavior of the Covered Species, information about the distribution and the habitat needs of the Covered Species, sensitivity of the Covered Species to human activities, its status under CESA including legal protection, recovery efforts, penalties for violations and Project-specific protective measures described in this ITP. Interpretation shall be provided for non-English speaking workers, and the same instruction shall be provided for any new workers prior to their performing work on-site. Copies of this ITP shall be maintained at the worksite. Permittee shall prepare and distribute wallet-sized cards or a fact sheet handout containing this information for workers to carry on-site. Upon completion of the program, employees shall sign a form stating that they attended the program and understand all protection measures. These forms shall be filed at the worksite offices and be available to DFG upon request.	ITP Condition 4.4	Before commencing ground- or vegetation-disturbing activities/ Entire Project	Permittee	
4	A trash abatement program shall be initiated during pre-construction phases of the Project and the program shall continue throughout the duration of the Project. Trash and food items shall be contained in closed (raven-proof) containers and removed regularly (at least once a week) to avoid attracting opportunistic predators such as ravens, coyotes, and feral dogs.	ITP Condition 4.6	Before commencing ground- or vegetation-disturbing activities/ Entire Project	Permittee	
5	Permittee shall clearly delineate the property boundaries of the Project site with fencing, stakes or flags and shall similarly delineate the limits of construction areas.	ITP Condition 4.7	Before commencing ground- or vegetation-disturbing activities/ Entire Project	Permittee	
6	Permittee shall notify DFG fourteen (14) calendar days before initiating ground- or vegetation-disturbing activities and shall document compliance with all pre-Project Conditions of Approval before initiating ground-disturbing or vegetation-disturbing activities.	ITP Condition 5.1	Before commencing ground- or vegetation-disturbing activities	Permittee	

	Mitigation Measure	Source	Implementation Schedule	Responsible Party	Status / Date / Initials
7	Pre-construction surveys shall be conducted to locate and remove the Covered Species prior to grading or any activity which alters or disturbs Covered Species' habitat or which could potentially result in harm to a Covered Species. The survey shall be conducted by the Designated Biologist no earlier than 24 hours prior to the onset of any surface disturbance.	ITP Condition 6.2	Before commencing ground- or vegetation-disturbing activities/ Entire Project	Permittee	
8	If a Covered Species is found on-site during the preconstruction surveys, it shall be moved outside of the construction site by the Designated Biologist in accordance with the guidelines developed by the Desert Tortoise Council (1999), and the Designated Biologist shall have an MOU with DFG for handling the Covered Species. Only the Designated Biologist or other biologists authorized by DFG to handle the Covered Species shall be allowed to handle the Covered Species. The Covered Species shall be kept upright at all times and handled in a secure but gentle manner to minimize stress including the possibility of voiding the bladder.	ITP Condition 6.1	Before commencing ground- or vegetation-disturbing activities/ Entire Project	Permittee	
9	Permittee shall acquire and permanently preserve 11.11 acres of Habitat Management Lands approved by DFG (HM Lands) for the Covered Species prior to initiating ground-disturbing Project activities or no later than 18 months from the effective date of this ITP if Security is provided pursuant to Condition 8 of the ITP. The required acreage is based upon DFG's estimate of the acreage required to provide for adequate biological carrying capacity at a replacement location as a means of fully mitigating the Project's impacts on the Covered Species.	ITP Condition 7.1	Before commencing ground- or vegetation-disturbing activities (or within 18 months of issuance of the ITP if Security is provided)	Permittee	
10	Permittee shall provide for the initial protection and enhancement of the HM Lands ($250.00/acre for 11.11 acres = $2,777.50) and shall provide an endowment for long-term management of the HM Lands ($1,300.00/acre for 11.11 acres = $14,443.00) as per Conditions 7.1.3 and 7.1.4 of the ITP.	ITP Condition 7.1.3, 7.1.4	Before commencing ground- or vegetation-disturbing activities (or within 18 months of issuance of the ITP if Security is provided)	Permittee	
11	Permittee may proceed with ground- or vegetation-disturbing Project activities before completing all of the required mitigation (including acquisition of HM Lands), monitoring, and reporting activities only if Permittee ensures funding to complete those activities by providing to DFG prior to commencing ground-disturbing activities or within 30 days after the effective date of this ITP, whichever occurs first: an irrevocable letter of credit in the form of Attachment 4 or another form of security (Security) approved by the Office of the General Counsel. The Security shall allow DFG to draw on the principal sum if DFG, at its sole discretion, determines that Permittee has failed to comply with the Conditions of Approval of this ITP. The Security shall be in the amount of **$28,330.50** based on the following estimated costs of implementing the ITP's mitigation, monitoring and reporting requirements. a. Land acquisition costs for impacts to habitat, calculated at $1,000.00/acre for 11.11 acres: **$11,110.00.** b. Costs of enhancing HM lands, calculated at $250.00 acre for 11.11 acres: **$2,777.50.** c. Endowment estimate, calculated at $1,300.00/acre for 11.11 acres: **$14,443.00.**	ITP Condition 8.1	Before commencing ground- or vegetation-disturbing activities	Permittee	

	Mitigation Measure	Source	Implementation Schedule	Responsible Party	Status / Date / Initials
DURING CONSTRUCTION					
12	Monthly Compliance Report: The Designated Biologist shall be on-site daily while grubbing and grading are taking place to minimize take of the Covered Species, to check for compliance with all mitigation and avoidance measures, and to check all exclusion zones to ensure that signs, stakes, and fencing are intact and that human activities are restricted in these protective zones. These inspections shall be compiled into Monthly Compliance Reports and submitted to DFG's Regional office at the address in the ITP.	ITP Condition 5.3	Entire Project	Permittee	
13	Annual Status Report: Beginning with issuance of the ITP and continuing until DFG accepts the Final Mitigation Report identified below, Permittee shall provide DFG an annual Status Report no later than January 31st of every year. Each Status Report shall include, at a minimum: 1) a general description of the status of the Project, including actual or Projected completion dates, if known; 2) a copy of this table with notes showing the current implementation status of each mitigation measure; and 3) an assessment of the effectiveness of each completed or partially completed mitigation measure in minimizing and compensating for Project impacts.	ITP Condition 5.4	Entire Project	Permittee	
14	Permittee shall immediately notify DFG in writing if it determines that any of the mitigation measures were not implemented during the period indicated in this table or in the ITP, or if Permittee anticipates for any reason that measures may not be implemented within the time period indicated. Permittee shall report any non-compliance during the construction phase to DFG within 24 hours.	ITP Condition 5.2	Entire Project	Permittee	
15	All observations of Covered Species and their sign, oversight activities, verifications, compliance inspections, surveys, monitoring, and records required by this ITP shall be reported in writing to DFG by the Permittee's Designated Representative or Designated Biologist. Permittee shall submit this information in the next Monthly Compliance Report to DFG	ITP Condition 5.3	Entire Project	Permittee	
16	The Designated Biologist shall have authority to immediately stop any activity that is not in compliance with this ITP, and/or to order any reasonable measure to avoid the take of an individual of a Covered Species	ITP Condition 4.3	Entire Project	Permittee	
17	Personnel shall access the Project site during construction and development activities using existing routes and shall not cross Covered Species' habitat outside of the Project site. Project-related vehicle traffic shall be restricted to established roads, staging, and parking areas. Vehicle speeds shall not exceed 20 mph in order to avoid Covered Species on or traversing the roads. If construction of offsite routes of travel will be required, DFG shall be contacted prior to carrying out such an activity. This ITP may require amendment if additional take of Covered Species may result from Project modification.	ITP Condition 4.8	Entire Project	Permittee	
18	All materials which come in contact with the Covered Species shall be used only once and then properly discarded to minimize contact with the causative factor(s) for upper respiratory tract disease.	ITP Condition 6.3	Entire Project	Permittee	
19	The Designated Biologist shall approve a disposal site for materials (spoils or excess soils, etc.) prior to the materials leaving the proposed Project site. Alternatively, materials need to be placed in an authorized dumpsite or landfill.	ITP Condition 6.4	Entire Project	Permittee	

	Mitigation Measure	Source	Implementation Schedule	Responsible Party	Status / Date / Initials
20	Any time a vehicle or construction equipment is parked, the ground around and under the vehicle or equipment shall be inspected for Covered Species before the vehicle or equipment is moved. If a Covered Species is observed, it shall be left to move on its own. If this does not occur within 15 minutes, the Designated Biologist shall remove and relinquish the Covered Species pursuant to Condition 6.1.	ITP Condition 6.6	Entire Project	Permittee	
21	Any fuel or hazardous waste leaks or spills shall be stopped/repaired immediately and cleaned up at the time of occurrence. The storage and handling of hazardous materials shall be excluded from the construction zone and any unused or leftover hazardous products shall be properly disposed of off-site.	ITP Condition 4.10	Entire Project	Permittee	
22	Permittee shall confine all Project-related parking and equipment storage shall be confined to the Project site, using to the extent possible, previously disturbed areas. Additionally, Permittee shall not use or cross Covered Species' habitat outside of the marked Project boundaries unless specifically provided for in this ITP.	ITP Condition 4.9	Entire Project	Permittee	
23	Unavoidable burrows inhabited by the Covered Species shall be excavated using hand tools under the supervision of the Designated Biologist, with excavations permitted only prior to 12:00 noon. To prevent re-entry by a Covered Species, all burrows in the construction zone that do not contain Covered Species shall be collapsed.	ITP Condition 6.5	Entire Project	Permittee	
24	If a desert tortoise is injured as a result of Project related activities, it shall be immediately taken to a Department approved Wildlife Rehabilitation or Veterinary Facility. Permittee shall identify the facility prior to the start of ground- or vegetation-disturbing activities. Any costs associated with the care or treatment of such injured desert tortoise shall be borne by Permittee. DFG and the U.S. Fish and Wildlife Service (Service) shall be notified immediately unless the incident occurs outside of normal business hours. In that event DFG shall be notified no later than 12:00 noon on the next business day. Notification to DFG shall be via telephone or email, followed by a written incident report. Notification shall include the date, time, location and circumstances of the incident, and the name of the facility to which the animal was taken.	ITP Condition 6.7	Entire Project	Permittee	
25	If a desert tortoise is killed by Project-related activities during construction, or if a desert tortoise is otherwise found dead, the Designated Biologist shall be immediately notified by calling the DFG Regional Office at (760)246-8828 and the Service at (805)644-1766, and providing information on the location, species, number of animals injured or killed, and the ITP number. Following initial notification, Permittee shall send DFG and the Service a written report within two (2) calendar days. The report will include the date, time of the finding or incident, location of the carcass, and the circumstances. The Covered Species shall be salvaged according to Salvaging Injured, recently Dead, Ill, and Dying Wild, Free-Roaming Desert Tortoise (*Gopherus agassizii*). The Permittee shall pay to have these Covered Species necropsied.	ITP Condition 5.7	Entire Project	Permittee	

	Mitigation Measure	Source	Implementation Schedule	Responsible Party	Status / Date / Initials
26	DFG may issue Permittee a written stop-work order to suspend any activity covered by this ITP for an initial period of up to 25 days to prevent or remedy a violation of ITP conditions (including but not limited to failure to comply with reporting, monitoring, or habitat acquisition obligations) or to prevent the illegal take of an endangered, threatened, or candidate species. Permittee shall comply with the stop-work order immediately upon receipt thereof. DFG may extend a stop-work order under this provision for a period not to exceed 25 additional days, upon written notice to the Permittee. DFG shall commence the formal suspension process pursuant to California Code of Regulations, Title 14, §783.7 within five working days of issuing a stop-work order.	ITP	Entire Project	Department of Fish and Game	
POST-CONSTRUCTION					
27	Upon Project completion, all construction refuse, including, but not limited to, broken equipment parts, wrapping material, cords, cables, wire, rope, strapping, twine, buckets, metal or plastic containers, and boxes shall be removed from the site and disposed of properly by the Permittee.	ITP Condition 4.12	Post-construction	Permittee	
28	Final Report: No later than 45 days after completion of the Project, including completion of all mitigation measures, Permittee shall provide DFG with a Final Mitigation Report. The Final Mitigation Report shall be prepared by the Designated Biologist and shall include, at a minimum: 1) a copy of this table with notes showing when each of the mitigation measures was implemented; 2) all available information about Project-related incidental take of species named in the ITP; 3) information about other Project impacts on the species named in the ITP; 4) construction dates; 5) an assessment of the effectiveness of each mitigation measure in minimizing and compensating for Project impacts; 6) recommendations on how mitigation measures might be changed to more effectively minimize and mitigate the impacts of future Projects on the species; and 7) any other pertinent information. Permittee's monitoring and reporting obligations under this MMRP will end only after DFG accepts the Final Mitigation Report as complete.	ITP Condition 5.6	Post-construction and after completion of mitigation	Permittee	
29	DFG accepts the Final Mitigation Report as complete.	ITP Condition 4.13	Post-construction	Department of Fish and Game	

ATTACHMENT 2A
DEPARTMENT OF FISH AND GAME
HABITAT MANAGEMENT LAND ACQUISITION PACKAGE CHECKLIST FOR PROJECT APPLICANTS

The following checklist is provided to inform you of what documents are necessary to expedite Department processing of your Habitat Management Land acquisition proposal. Any land acquisition processing requests which are incomplete when received, will be returned. The Region contact will review and approve the document package and forward it to the Lands and Facilities Branch (LFB) Realty Services Coordinator with a request to process the land acquisition for formal acceptance.

To: _____
Regional Manager, Region Name

From: _____
Project Applicant

Phone: _____

Tracking #: _____
CDFG assigned permit or agreement #

Project Name: _____

Enclosed is the complete package for the ☐ Conservation Easement OR ☐ Grant Deed

Documents in this package include:

☐ Fully executed, approved as to form Conservation Easement Deed or Grant Deed.
Date executed: _____

☐ Proposed Lands for Acquisition Form (PLFAF)

☐ Phase I Environmental Site Assessment Report Date on report: _____
(An existing report may be used, but it must be less than two years old.)

☐ Preliminary Title Report(s) for subject property is enclosed and has been reviewed for encumbrances and other easements. The title report must be less than six months old when final processing is conducted.
Included are additional documents:
- ☐ document(s) to support title exceptions
- ☐ document(s) to explain title encumbrances
- ☐ a plot or map of easements/encumberances on the property

☐ Policy of Title Insurance (an existing title policy is not acceptable)

☐ County Assessor Parcel Map(s) for subject property

☐ Site Location Map (Site location with property boundaries outline on a USGS 1:24,000 scale topo)

☐ Final Permit or Agreement (or other appropriate instrument)
Type of agreement: ☐ Bank Agreement ☐ Mitigation Agreement
☐ Permit _____ Other: _____
(write in type of permit)

☐ Final Management Plan (if required prior to finalizing permit or agreement or if this package is for a Grant Deed)

☐ Biological Resources Report

☐ Draft Summary of Transactions ☐ hard copy ☐ electronic copy (both are required)

PROPOSED LANDS FOR ACQUISITION FORM ("PLFAF")

Date: _____

TO: Regional Representative

_____

_____

_____

Facsimile:

FROM: _____

_____

_____

_____

Applicant proposes that the following parcel of land be considered for approval by the Department as suitable for purposes of habitat management lands to replace the adverse environmental impacts of the Project:

Section	Township	Range	Number of Acres
_____	_____	_____	_____

Current Legal Owner(s), include Parcel Number(s):

_____

_____

_____

Location of Parcel:

_____

_____

_____

_____

_____

APPROVED ___ By: _____ DATE: _____

REJECTED ___ _____

Region

Explanation: _____

_____

_____

ATTACHMENT 3

CALIFORNIA DEPARTMENT OF FISH AND GAME
MITIGATION PAYMENT TRANSMITTAL FORM

Project Applicant Instructions: Please fill out and attach this form to payment. For conservation banks, also attach the Bill(s) of Sale for credits sold. One form may be used for multiple transactions, **BUT YOU MUST USE A SEPARATE FORM FOR EACH CHECK YOU TRANSMIT.** Make sure to include Project Name, Project Tracking Number, and FASB Mitigation Tracking Number (if available) on the attached payment type.

(1) **DATE:** _____

TO: Curt Taucher, Regional Manager
4665 Lampson Ave., Suite J
Los Alamitos, CA 90720

(2) **FROM:** _____
Name

_____
Mailing Address

_____
City, State, Zip

_____
Telephone Number/FAX Number

(3) **RE:** AT&T CORP.
AT&T Fiber Optic Cable Replacement Project

(4) **AGREEMENT/ACCOUNT INFORMATION:**
(Check the applicable type)

X 2081 Permit ☐ Conservation Bank ☐ 1802 Agreement ☐ 2835 NCCP

2081-2008-015-06
[HCPB Project Tracking Number]

_____
[FASB Mitigation Tracking Number (if available)]

Index _____ PCA _____

(4) PAYMENT TYPE (One check per form only):The following funds are being remitted in connection with the above referenced project:

Check information:

Total $_____ Check No. _____

Account No. _____ Bank Routing No. _____

a. Endowment: for Management of Conservation Land

Subtotal $_____

b. Habitat Enhancement

Subtotal $_____

c. Security: Cash Refundable Security Deposit

Subtotal $_____

d. Letter of Credit

Subtotal $_____
1. Financial Institution:_____
2. Letter of Credit Number: _____
3. Date of Expiration:_____

ATTACHMENT 3

CALIFORNIA DEPARTMENT OF FISH AND GAME
MITIGATION PAYMENT TRANSMITTAL FORM

MITIGATION PAYMENT TRANSMITTAL FORM INSTRUCTIONS

(1) DATE: Applicant or Permittee enters date in month / day / year format.

(2) FROM:

a. Name – Enter first name, middle initial, last name and title of principal officer if permittee is a business and name of business; or contact person if different than permittee and principal officer.

b. Mailing Address – Enter complete business mailing address or mailing address of contact person.

c. Telephone Number / FAX Number – Telephone number and fax number of principal officer or contact person listed above.

(3) RE:

Project Name – Region enters project name as it appears on Permit or Agreement document.

(4) PERMIT OR AGREEMENT TYPE / ACCOUNT INFORMATION

a. Agreement Type – Check the appropriate agreement or permit type.

b. Tracking Number– Region enters the project tracking number as it appears on the Tracking Surname Cover Sheet and Permit or Agreement document.

c. FASB Mitigation Tracking Number (if available) – Region enters the Mitigation Tracking Number (MT #) assigned by FASB for the project specific mitigation account if account has been set up prior to receiving current mitigation payment.

d. Index and PCA – Region enters the mitigation account codes associated with the accounts for deposit and expenditures.

(5) PAYMENT TYPE: Applicant or Permittee enters the following information.

a. Permanent Endowment for Management of Conservation Land – Enter the amount of the attached payment. A permanent endowment is an account established for the long-term management of habitat management land for conservation purposes as required by a Permit or Agreement.

b. Habitat Enhancement Fees – Enter the amount of the attached payment. The habitat enhancement fees are intended for the initial preparation of the land for transfer as habitat management lands.

c. Cash Refundable Security Deposit – Enter the amount of the deposit attached. A cash refundable security deposit may be a required condition of a Permit or Agreement to ensure the proper and timely implementation of those conditions.

d. Letter of Credit – Enter the amount of the attached letter of credit. 1. Financial Institution - Include the name of the financial institution from which the letter of credit was issued. 2. Date of Expiration – Enter the date of expiration from the letter of credit.

ATTACHMENT 4
IRREVOCABLE "STANDBY" LETTER OF CREDIT

ISSUER:

_____
_____
_____
_____

ACCOUNT PARTY/CUSTOMER:

_____
_____
_____
_____

IRREVOCABLE LETTER OF CREDIT NO.: _____ Dated: _____

TO BENEFICIARY:

California Department of Fish and Game
1416 9th Street, 12th Floor
Sacramento, California 95814
Attention: Director

Dear Sirs:

1. At the request and on the instructions of our CUSTOMER, _____ ("Applicant"), we hereby establish in favor of the BENEFICIARY, the California Department of Fish and Game (the "Department"), this Irrevocable Standby Letter of Credit ("CREDIT") in the Principal Sum of $ _____.

2. This CREDIT is and has been established for the sole benefit of the Department pursuant to the terms of the **[name of agreement or permit]** ("Agreement") entered into between Applicant and the Department _____, 1993.

3. This CREDIT is intended by the parties to the Agreement to serve as a security device for the performance by Applicant of its obligations under the Agreement.

4. Upon the occurrence of any default by Applicant as determined by the Department in its sole discretion under the Agreement, the Department shall be entitled to draw upon this CREDIT by presentation of a duly executed CERTIFICATE FOR DRAWING in substantially the same form as Attachment A, attached hereto, at our office located at _____.

5. The CERTIFICATE shall be completed and signed by an "Authorized Representative" as defined in paragraph 12. Presentation by the Department of a completed CERTIFICATE may be made in person or by registered mail, return receipt requested.

6. Upon presentation of a duly executed CERTIFICATE as above provided, payment shall be made to the Department, or to an account designated by the Department, in immediately available funds, at such time and place as the Department shall specify.

7. Funds may be drawn in one or more drawings not to exceed the Principal Sum.

8. If a demand for payment does not conform to the terms of this CREDIT, we shall give the Department prompt notice that the demand for payment was not effected in accordance with the terms of this CREDIT, state the reasons therefor, and await further instructions.

9. Upon being notified that the demand for payment was not effected in conformity with the CREDIT, the Department may correct any such non-conforming demand for payment.

10. All drawings under this CREDIT shall be paid with our funds. Each drawing honored by us hereunder shall reduce, pro tanto, the Principal Sum. By paying to the Department an amount demanded in accordance herewith, we make no representations as to the correctness of the amount demanded.

11. This CREDIT will be cancelled in whole or in part upon receipt by us of a CERTIFICATE OF CANCELLATION, which (i) shall be in the form of Attachment B attached hereto, and (ii) shall be completed and signed by any person purporting to be an Authorized Representative, as defined in the next paragraph.

12. An "Authorized Representative" shall mean one of the following persons: Director of the Department of Fish and Game, or the General Counsel of the Department of Fish and Game.

13. Communications with respect to this CREDIT shall be in writing and addressed to us at _____ specifically referring upon such writing to this CREDIT by number.

14. This CREDIT may not be transferred or assigned, either in whole or in part.

15. This CREDIT shall be deemed a contract made under the laws of the State of California.

16. This CREDIT shall, if not cancelled as provided herein, expire no later than _____ of the date of its execution.

THEREFORE, _____

_____

has executed and delivered this IRREVOCABLE STANDBY LETTER OF CREDIT to the BENEFICIARY as of the ____ day of _____, 19___.

CERTIFICATE FOR DRAWING

ISSUER:

_____
_____
_____
_____

ACCOUNT PARTY/CUSTOMER:

_____
_____
_____
_____

IRREVOCABLE LETTER OF CREDIT NO.: _____

BENEFICIARY:

California Department of Fish and Game
1416 9th Street, 12th Floor
Sacramento, California 95814

The undersigned, a duly Authorized Representative of the California Department of Fish and Game (the Department) (as defined in the above-referenced CREDIT), hereby certifies to the ISSUER that:

1. In the opinion of the Department, an Event of Default has occurred as defined in section __ of the Agreement.

2. The undersigned is authorized under the terms of the above-referenced CREDIT to present this CERTIFICATE as the sole means of demanding payment on the CREDIT.

3. The Department is therefore making a drawing under the above-referenced CREDIT in the amount of $ _____.

4. The amount demanded does not exceed the Principal Sum.

5. Sums received shall be used by the Department in accordance with the terms of the Agreement.

THEREFORE, the Department has executed and delivered this CERTIFICATE as of the _____ day of _____ , 19___.

DEPARTMENT OF FISH AND GAME
OF THE STATE OF CALIFORNIA

By: _____
Title: _____
Authorized Representative

CERTIFICATE FOR CANCELLATION

ISSUER:

_____
_____
_____
_____

ACCOUNT PARTY/CUSTOMER:

_____
_____
_____
_____

IRREVOCABLE LETTER OF CREDIT NO.: _____

BENEFICIARY:

California Department of Fish and Game
1416 9th Street, 12th Floor
Sacramento, California 95814

The undersigned, a duly Authorized Representative of the California Department of Fish and Game (the Department) (as defined in the above-referenced CREDIT), hereby certifies to the ISSUER that:

1. Pursuant to the Agreement entered into between _____ _____("Applicant") and the Department, Applicant has presented documentary evidence of full compliance with the terms and conditions of the Agreement, or, the natural expiration of the CREDIT has occurred.

2. The Department therefore requests the cancellation of the above-referenced CREDIT.

THEREFORE, the Department of the State of California has executed and delivered this CANCELLATION as of the _____ day of _____ , 19___.

DEPARTMENT OF FISH AND GAME
OF THE STATE OF CALIFORNIA

_____

By: _____
Title: _____
Authorized Representative

California Department of Fish and Game
4665 LAMPSON AVE, SUITE J
LOS ALAMITOS, CA 90720
California Endangered Species Act
Incidental Take Permit No. 2081-2005-028-06
COPPER MOUNTAIN COMMUNITY COLLEGE DISTRICT
COPPER MOUNTAIN COMMUNITY COLLEGE EXPANSION SITE

Authority: This California Endangered Species Act ("CESA") Incidental Take Permit ("Permit") is issued by the Department of Fish and Game ("Department") pursuant to Fish and Game Code sections 2081(b) and 2081(c), and California Code of Regulations, title 14, subdivision 3, chapter 6, article 1, commencing with section 783. CESA prohibits the take[1] of any species of wildlife designated as an endangered, threatened, or candidate species[2] by the Fish and Game Commission. The Department, however, may authorize the take of such species by permit if the conditions set forth in Fish and Game Code sections 2081(b) and 2081(c) are met. (See also Cal. Code Regs., tit. 14, § 783.4.)

Permittee: Copper Mountain Community College District

Name and title of principal officer: Ms. Kindred Murillo, Chief Business Officer

Contact person: Ms. Kindred Murillo, (760) 366-5282

Mailing address: Copper Mountain Community College
6162 Rotary Way
Joshua Tree, CA 92252
(760)366-3791

Effective Date and Expiration Date of Permit:
This Permit shall be executed in duplicate original form and shall become effective once a duplicate original is acknowledged by signature of the Permittee on the last page of the Permit and returned to the Department's Office of the General Counsel. Unless renewed by the Department, this Permit's authorization to take the Covered Species shall expire on **December 31, 2030.**

Project Location: The project site is at 6162 Rotary Way in the community of Joshua Tree, County of San Bernardino.

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[1]Pursuant to Fish and Game Code section 86, "'Take' means hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture or kill."

[2]"Candidate species" are species of wildlife that have not yet been placed on the list of endangered species or the list of threatened species, but which are under formal consideration for listing pursuant to Fish and Game Code section 2074.2.

Project Description:
The proposed project includes the expansion of Copper Mountain Community College campus from the existing **8.59** acres onto **156.53** acres that it owns in adjacent areas. Construction would be phased, beginning with construction of Solar Field East, Multi Use Sports Complex, Solar Field East, Copper Mountain Drive East, Copper Mountain Drive West, Brulte Way, and Parking E in 2006-2007. During the next 12 years, between 2006 and 2018, the District envisions constructing the following additional facilities: Desert Studies Center, Remodel for Efficiency, Maintenance and Operations Expansion, Applied Science/Vocational Facility, Copper Mountain Drive East, Brulte Way (1/2 road), Instructional Facility, Copper Mountain Drive West, Child Development Facility, Student Services, Future Building Partnership, Community Center (Partnership), and eight additional parking areas. In addition, approximately **84** of the acres mentioned above will be set aside for desert tortoise translocation. The Project will impact up to 73 acres of habitat.

Covered Species:

This Permit covers the following species:

Name	**Status**[3]
Reptiles	
1. Desert Tortoise (*Gopherus agassizii*)	Threatened

This species and only this species is hereinafter referred to as "Covered Species."

Impacts to Covered Species:
The Project will result in the permanent destruction of up **to 73 acres** of habitat for the Covered Species. Individuals of the Covered Species may be incidentally taken as a result of mortality due to development activities, mortality due to project-related traffic on and off site, crushing of burrows, crushing of tortoise eggs, and project-caused habitat losses.

Incidental Take Authorization:
The Department authorizes the Permittee, its employees, contractors, and agents to take Covered Species incidentally in carrying out the Project, subject to the limitations described in this section and the conditions of approval identified below. This Permit does not authorize any take of Covered Species from activities outside the scope of the Project as described above; take of Covered Species resulting from violation of this Permit; or intentional take of Covered Species except for capture and relocation of Covered Species as authorized by this Permit.

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[3]Refers to status under CESA. Under CESA, a species may be on the list of endangered species, the list of threatened species, or the list of candidate species. All other species are "unlisted."

Conditions of Approval:
The Department's issuance of this Permit and Permittee's authorization to take the Covered Species are subject to Permittee's compliance with and implementation of the following conditions of approval:

1. Permittee shall comply with all applicable state, federal, and local laws in existence on the effective date of this Permit or adopted thereafter.

2. Permittee shall fully implement and adhere to the conditions of this Permit within the time frames set forth in Attachment 1, the Mitigation Monitoring and Reporting Program ("MMRP").

3. Permittee shall implement and adhere to mitigation measures Bio 1, 2, 3, 4 and 5 in the Environmental Impact Report adopted by the lead agency, Copper Mountain College District, for the Project Copper Mountain College 20 year Master Plan, on April 19, 2004.

4. Permittee shall fully implement and adhere to the following conditions:

4.1. **General Provisions**:

4.1.1. Before initiating ground-disturbing activities, Copper Mountain Community College District shall designate a Field Contact Representative ("FCR") responsible for communications with the Department and for overseeing compliance with this Permit. The Department shall be notified in writing prior to commencement of ground-disturbing activities of the representative's name, business address, and contact information, and shall be notified in writing if a substitute representative is designated.

4.1.2. A biologist ("Designated Biologist") knowledgeable and experienced in the biology and natural history of the Covered Species shall monitor construction activities in areas of Covered Species habitat to help avoid the take of individual animals and to minimize habitat disturbance. At least 30 days prior to ground-disturbing activities, Copper Mountain Community College District shall submit to the Department in writing the proposed Designated Biologist's name, qualifications, business address, and contact information for review. The Designated Biologist must be approved by the Department prior to the commencement of ground-disturbing activities.

4.1.3. Tortoises may only be handled by those biologists authorized to handle tortoises by the Department through a Memorandum of Understanding ("Authorized Biologist"). The Authorized Biologist must be approved by the Department prior to the commencement of any activity which could result in the

handling of tortoises. "Permitted Biologist", as used throughout this permit, may be either the Designated Biologist or Authorized Biologist.

4.1.4. Copper Mountain Community College District shall conduct an education program for all persons who will work on-site during Project implementation and construction. The program shall consist of a presentation from the Designated Biologist that includes a discussion of the biology of the Covered Species, the habitat needs of the Covered Species, its status under CESA, and the management measures provided in this Permit. A fact sheet containing this information shall also be prepared and distributed. Upon completion of the program, employees shall sign a form stating that they attended the program and understand all protection measures. These forms shall be filed at the College work site office and shall be made available to the Department upon request.

4.1.5. Firearms and domestic dogs shall be prohibited from the Project site and site access routes during construction and development of the Project.

4.1.6. The Designated Biologist shall have authority to immediately stop any activity that is not in compliance with this Permit, and to order any reasonable measure to avoid the take of an individual of the Covered Species.

4.1.7. A trash abatement program shall be initiated during pre-construction phases of the Project and shall continue throughout the duration of the Project. Trash and food items shall be contained in closed (raven-proof) containers and removed regularly (at least once a week) to avoid attracting opportunistic predators such as ravens, coyotes, and feral dogs.

4.1.8. The Permittee shall clearly delineate the property boundaries of the Project site with fencing, stakes or flags and shall similarly delineate the limits of construction areas.

4.1.9. Project-related personnel shall access the Project site during construction and development activities using existing routes and shall not cross Covered Species' habitat outside of the Project site. To the extent possible, previously disturbed areas within the Project site shall be used for temporary storage areas, laydown sites, and any other surface-disturbing activities. If construction of offsite routes of travel will be required, the Department shall be contacted prior to carrying out such an activity. The Department may require an amendment to this Permit if additional take of Covered Species may result from Project modification.

4.1.10. All Project-related parking, storage areas, laydown sites, equipment storage, and any other surface disturbing activities shall be confined to the Project site.

Off-site Covered Species habitat shall not be used. Project-related vehicle traffic shall be restricted to established roads, staging, and parking areas. Permittee shall post signs; place posting stakes, flags, and/or rope or cord; and place fencing as necessary to minimize the disturbance of Covered Species habitat. Vehicle speeds shall not exceed 20 mph in order to avoid desert tortoises on or traversing the roads.

4.1.11. Any fuel or hazardous waste leaks or spills on the Project site during construction and development activities shall be stopped/repaired immediately and cleaned up at the time of occurrence. The storage and handling of hazardous materials shall be excluded from the construction zone and any unused or leftover hazardous products shall be properly disposed of offsite.

4.1.12. The Permittee shall provide Department representatives with reasonable access to the Project site and mitigation lands under its control, and shall otherwise fully cooperate with Department efforts to verify compliance with or effectiveness of mitigation measures set forth in the Permit. Neither the Designated Biologist, nor the Department shall be liable for any costs incurred in complying with the management measures, including cease-work orders issued by the Department or as provided in the Permit.

4.1.13. Upon Project completion, all construction refuse, including, but not limited to, broken equipment parts, wrapping material, cords, cables, wire, rope, strapping, twine, buckets, metal or plastic containers, and boxes shall be removed from the site and disposed of properly.

4.1.14. Notwithstanding any expiration date on this Permit's take authorization, the Permittee's obligations under this Permit do not end until the Department accepts the Final Mitigation Report as complete.

4.2. **Notification and Reporting**:

4.2.1. The Permittee shall notify the Department and shall document compliance with all pre-construction Conditions of Approval before initiating ground-disturbing and vegetation-disturbing activities.

4.2.2. The Permittee shall notify the Department fourteen (14) calendar days before initiating ground-disturbing activities.

4.2.3. The Permittee shall immediately notify the Department in writing if it determines that it is not in compliance with any condition of approval of this Permit, including

but not limited to any actual or anticipated failure to implement mitigation measures within the time periods indicated in this Permit and/or the MMRP.

4.2.4. The Designated Biologist shall be on-site daily while grubbing and grading are taking place to minimize take of the Covered Species, to check for compliance with all mitigation and avoidance measures, and to check all exclusion zones to ensure that signs, stakes, and fencing are intact and that human activities are restricted in these protective zones. Compliance inspections shall be conducted a minimum of once per month after clearing, grubbing, and grading are completed. A monthly compliance report shall be submitted to the Department's Palmdale office at the address listed below.

4.2.5. Beginning with issuance of the Permit and continuing for the life of the Permit, Permittee shall provide the Department an annual Status Report no later than January 31 of every year. Each Status Report shall include, at a minimum: 1) a general description of the status of the Project site and construction activities, including actual or projected completion dates, if known; 2) a running inventory of habitat disturbed under terms of this permit; 3) number of tortoises translocated into the translocation area; 4) a copy of the table in the MMRP with notes showing the current implementation status of each mitigation measure; and 5) an assessment of the effectiveness of each completed or partially completed mitigation measure in minimizing and compensating for Project impacts.

4.2.6. All observations of Covered Species and their sign during Project activities shall be conveyed to the Permittee's Field Contact Representative or Designated Biologist. This information shall be included in the next monthly compliance report submitted to the Department by the Permittee.

4.2.7. No later than 45 days after completion of each phase of the Project, including completion of all mitigation measures, Permittee shall provide the Department with a Final Mitigation Report. The Final Mitigation Report shall be prepared by the Designated Biologist and shall include, at a minimum: 1) a copy of the table in the MMRP with notes showing when each of the mitigation measures was implemented; 2) all available information about Project-related incidental take of Covered Species; 3) information about other Project impacts on the Covered Species; 4) construction dates; 5) an assessment of the effectiveness of the Permit's conditions of approval in minimizing and compensating for Project impacts; 6) recommendations on how mitigation measures might be changed to more effectively minimize and mitigate the impacts of future projects on the Covered Species; and 7) any other pertinent information, including the level of take of the Covered Species associated with the Project.

4.2.8. If a desert tortoise is killed by project-related activities during construction, or if a desert tortoise is otherwise found dead, the Designated Biologist shall be immediately notified and a written report will be sent to the Department within two (2) calendar days. The report will include the date, time of the finding or incident, location of the carcass, and the circumstances.

4.3. **Other Take Minimization and Mitigation Measures for Desert tortoise:**

4.3.1. A special 84-acre on-site facility intended to safely harbor translocated tortoises ("Translocation Area") shall be designated prior to the start of ground-clearing and vegetation-clearing avtivities. The Translocation Area will be located within the "Desert Studies Demonstration Area" shown on the attached map (Exhibit 5). The 84-acre translocation area shall be fenced, using specifications found in 4.3.3 below, and protected to safely harbor the animals found onsite, including those that will be displaced by construction, prior to translocating tortoises into the Translocation Area. Prior to installing the fence, a Permitted Biologist shall conduct 100% coverage tortoise surveys as described in 4.3.5 below for the fence alignment. Permittee shall be responsible for maintaining the fence around the Translocation Area as long as tortoises are present within the Translocation Area.

4.3.2. Tortoises found during pre-construction surveys shall be translocated out of harm's way into the Translocation Area. Only an Authorized Biologist may handle tortoises.

4.3.3. Prior to clearing vegetation from a given phase of construction, a tortoise-proof fence shall be erected around the perimeter of the area on which permanent facilities will be developed. Once the phase is fenced, tortoises shall be removed from the area and placed in the Translocation Area. The fence shall be maintained in place until construction is completed. The 1" X 2" wire mesh fence shall be fastened securely to posts at intervals sufficient to ensure integrity of the fence. The wire mesh shall extend at least 18 inches above the ground and 12 inches laid out at a right angle to the fence (extending away from the interior), flush with the surface of the ground or buried with soil and rock to prevent tortoises from entering the site.

4.3.4. Permittee shall be responsible for maintaining the desert tortoise-proof fence throughout construction. Breaks in the fence that may allow immigration of tortoises into the area shall be repaired immediately. The fence shall be checked daily by Permitted Biologists during clearing, grubbing, and construction, and particularly after each major rainstorm to ensure that it will continue to exclude tortoises from the site.

4.3.5. Prior to installing the construction fence, a Permitted Biologist shall survey the alignment along which the fence will be installed. When a burrow is encountered, the fence line shall be moved when possible so that any tortoise burrows will remain on the outside of the fenced area. The Permitted Biologist shall consider the direction of the burrow, recognizing that burrows may be 30 to 40 feet long. So, not only the burrow opening but also the burrow's approximate end shall be considered and excluded if the fence line is to be altered. Any tortoise burrows found within the proposed fence line that cannot be avoided shall be hand excavated by the Authorized Biologist prior to clearing of the fence line or installation of the fence. Burrow excavation procedures are given in Desert Tortoise Council (1999). The Permitted Biologist shall remain on-site to monitor the installation of the fence.

4.3.6. After installing the construction fence, and before any other activities occur within the fenced area, the Permitted Biologist shall conduct 100% coverage surveys for tortoises. If possible, and depending on the size of the phase, the surveys shall occur immediately after installation of the fence, and several days prior to brushing or grading activities. The site shall be searched three times unless no tortoises are found on the second search. Burrows shall either be excavated as they are found or flagged for excavation later. Each burrow shall also be carefully checked for viable tortoise eggs. The Designated Biologist shall submit a plan to the Department for disposition of tortoise eggs when necessary, prior to the translocation of eggs. When eggs are found, the Authorized Biologist shall move the eggs outside the impact zone in such a way that the viability of the eggs is not adversely affected by their movement (see Desert Tortoise Council 1999).

4.3.7. Once all tortoises have been removed from the fenced area, the Permitted Biologist shall remain on-site until construction areas have been cleared of vegetation. No vegetation shall be cleared outside the fenced area. The Permitted biologist shall inspect the brushed area immediately after clearing to ensure that no tortoises were injured during brushing. Once the site has been fenced, surveyed, all tortoises removed and translocated, the vegetation cleared, and the area checked to ensure that no tortoises were injured or killed, the Permitted Biologist shall not be required to remain on-site as long as all other measures given herein are being implemented.

4.3.8. Once the Permitted Biologist leaves the site, the FCR shall be given the responsibility of ensuring compliance with measures in this permit. The FCR shall visit the site as often as needed to check the tortoise proof fence and ensure that other measures are being effectively carried out. Of particular importance shall be the containment of construction activities, including parked vehicles and equipment

staging areas, inside the fenced area. If the FCR finds that the measures are not being implemented, the Department shall be notified within one week. The Department will then determine if the monitor shall resume monitoring activities on a daily basis.

4.3.9. If a tortoise is observed inside the fenced construction area after the Permitted Biologist leaves, the FCR shall contact the Authorized Biologist immediately. With input from available Department and U.S. Fish and Wildlife Service ("Service") personnel, the Authorized Biologist shall move the tortoise into the Translocation Area. If tortoises are injured, they shall immediately be taken to a local veterinarian for treatment. On-site construction shall not resume until the Permitted Biologist returns to the site, or until an approved substitute monitor is enlisted.

4.3.10. If a desert tortoise is injured as a result of project related activities, it shall be immediately taken to a Department-approved veterinarian. Any costs associated with the care or treatment of such injured desert tortoises shall be borne by Permittee. The Department shall be notified immediately unless the incident occurs outside of normal business hours. In that event the Department shall be notified no later than 12:00 noon on the next business day. Notification to the Department shall be via telephone or email, followed by a written incident report. Notification shall include the date, time, location and circumstances of the incident, and the name of the facility to which the animal was taken.

4.3.11. Following the establishment of the translocation area, the Permittee will develop a monitoring program for tortoises resident in the Translocation Area. The Authorized Biologist will work with the Permittee to establish an appropriate monitoring program. The monitoring program shall be submitted to the Department for approval no later than 36 months after the effective date of this permit. In the fourth year and beyond, appropriate college staff would carry on the responsibilities until the expiration date of this permit. Permittee shall ensure that the following actions are taken:

- Both resident and translocated tortoises within the Translocation Area shall be permanently marked following the methodology described in "Guidelines for Handling Desert Tortoises During Construction Projects" (Desert Tortoise Council 1999).
- There shall be annual surveys of the area to identify the total number of animals present, to be carried out at roughly the same time each year (e.g., early spring).
- As part of this survey, each animal shall be weighed and measured, and a visual assessment of the health of the animal carried out to detect evidence of disease.

- The Permittee shall maintain records of all activities, and make them available to the Department and Service upon request.
- A monitoring report shall be submitted to the Department no later than January 31st of each year

4.3.12. All tortoises removed from the construction area and translocated into the Translocation Area will be marked and monitored for a period of at least 5 years. A monitoring plan shall be prepared and submitted to the Department for approval prior to translocation of any tortoise into the Translocation Area.

5. Prior to initiating ground-disturbing Project activities, or no later than 18 months from the effective date of this Permit if Security is provided pursuant to Condition 6 below, the Permittee shall acquire and permanently preserve **80 acres of Habitat Management Lands** ("HM Lands") that the Department has determined will provide suitable mitigation for impacts to the Covered Species. The required acreage is based upon the Department's estimate of the acreage required to provide for adequate biological carrying capacity at a replacement location as a means of fully mitigating the Project's impacts on the Covered Species. The Department's approval of the HM Lands acquisition must be obtained prior to acquisition and transfer by use of the Proposed Lands for Acquisition Form (see Attachment 2B) or by other means specified by the Department. As part of this condition, Permittee shall:

a) Transfer fee title to the HM Lands or a conservation easement over the HM Lands to the Department under terms approved by the Department. Alternatively, the transfer may be to another public entity or non-profit corporation approved by the Department under terms approved by the Department.

b) Provide a recent preliminary title report, initial hazardous materials survey report, and other necessary documents (see Attachment 2A and 2B). All documents conveying the HM Lands and all conditions of title are subject to the approval of the Department, the Fish and Game Commission and, if applicable, the Department of General Services.

c) Provide for the initial protection and enhancement of the HM Lands as determined by the Department once Permittee identifies the HM Lands. The Department estimates that initial protection and enhancement will cost approximately $95.00/acre. Alternatively, Permittee may fund the Department's initial protection and enhancement of the lands by providing the funds required (**$7,600.00**) for the initial protection and enhancement to the Department.

d) Provide to the Department a check in the amount of **$16,000.00** ($200.00/acre x 80 acres) for use as principal for a permanent capital endowment. Interest from this

amount shall be available for the operation, management and protection of the HM Lands, including reasonable administrative overhead, biological monitoring, improvements to carrying capacity, law enforcement measures, and any other action designed to protect or improve the habitat values of the HM Lands. The endowment principal shall not be drawn upon unless such withdrawal is deemed necessary by the Department to ensure the continued viability of the species on the HM Lands. Monies received by the Department pursuant to this provision shall be deposited in a special deposit account established pursuant to Fish and Game Code section 13014. The Department may pool the endowment with other endowments for the operation, management and protection of HM Lands for local populations of the Covered Species.

e) Reimburse the Department for reasonable expenses incurred during title and documentation review, expenses incurred from other state agency reviews, and overhead related to transfer of HM Lands to the Department. The Department estimates that this Project will create an additional cost to the Department of no more than $3,000 for every fee title deed or easement processed.

6. Permittee may proceed with ground-disturbing Project activities before completing all of the required mitigation (including acquisition of HM Lands), monitoring, and reporting activities only if Permittee ensures funding to complete those activities by providing to the Department prior to commencing ground-disturbing activities or within 30 days after the effective date of this Permit, whichever occurs first: (1) the endowment of $16,000.00 as described in Condition 5, and (2) an irrevocable letter of credit in the form of Attachment 4, a pledged savings account, or another form of security approved by the Department's Office of the General Counsel ("Security"). The Security shall allow the Department to draw on the principal sum if the Department, at its sole discretion, determines that Permittee has failed to comply with the Conditions of Approval of this Permit. The Security shall be in the amount of **$71,600.00** based on the following estimated costs of implementing the Permit's mitigation, monitoring and reporting requirements.

   a) Land acquisition costs for impacts to habitat, calculated at $800/acre for 80 acres: **$64,000.00**.
   b) Costs of enhancing HM Lands, calculated at $95.00/acre for 80 acres: **$7,600.00**.

7. This Permit may be amended without the concurrence of the Permittee if the Department determines that continued implementation of the Project under existing permit conditions would jeopardize the continued existence of a Covered Species. The Department may also amend the Permit at any time without the concurrence of the Permittee as required by law.

8. The Department may issue Permittee a written stop-work order to suspend any activity covered by this Permit for an initial period of up to 25 days to prevent or remedy a violation of Permit conditions (including but not limited to failure to comply with reporting, monitoring, or habitat acquisition obligations) or to prevent the illegal take of an endangered, threatened, or candidate species. Permittee shall comply with the stop-work order immediately upon receipt thereof. The Department may extend a stop-work order under this provision for a period not to exceed 25 additional days, upon written notice to the Permittee. The Department shall commence the formal suspension process pursuant to California Code of Regulations, Title 14, section 783.7 within five working days of issuing a stop-work order.

Compliance with Other Laws

This Permit contains the Department's requirements for the Project pursuant to CESA. This permit does not necessarily create an entitlement to proceed with the Project. The Permittee is responsible for complying with all other applicable state, federal, and local laws.

Notices

Written notices, reports and other communications relating to this Permit shall be delivered to the Department by first class mail at the following addresses, or at addresses the Department may subsequently provide the Permittee. Notices, reports, and other communications should reference the Project name, Permittee, and Permit Number (2081-2005-028-06) in a cover letter and on any other associated documents.

Original cover with attachment(s) to:

Curt Taucher, Regional Manager
4665 Lampson Avenue, Suite J
Los Alamitos, CA 90720
Telephone (562) 431-1295
FAX (562) 799-8427

Copy of cover without attachment(s) to:

General Counsel
Department of Fish and Game
1416 Ninth Street, 12th Floor
Sacramento, CA 95814

And:

Habitat Conservation Planning Branch
1416 Ninth Street, Suite 1260
Sacramento, CA 95814

Unless the Permittee is notified otherwise, the Department's Regional Representative for purposes of addressing issues that arise during implementation of permit conditions is:

Ms. Rebecca Jones
36431 41st St. E
Palmdale, CA 93552
(661) 285-5867 phone
(661) 285-5867 fax

Compliance with the California Environmental Quality Act

The Department's issuance of the Permit is subject to the California Environmental Quality Act, Public Resources Code, section 21000 et seq. ("CEQA"). The Department is a responsible agency under CEQA with respect to the Permit because of prior environmental review of the Project by the lead agency, Cooper Mountain Community College District of Adelanto. (See generally Pub. Resources Code, §§ 21067, 21069.) The lead agency's prior environmental review of the Project is set forth in the Copper Mountain College Master Plan Update Environmental Impact Report (EIR) that the Copper Mountain Community College District adopted on April 19, 2004. At the time the lead agency adopted the EIR and approved the Project it also adopted all mitigation measures identified in the EIR as conditions of project approval.

In fulfilling its obligations as a responsible agency, the Department's obligations under CEQA are more limited than the lead agency. (CEQA Guidelines, § 15096, subd. (g)(1).)[4] The Department, in particular, is responsible for considering only the effects of those activities involved in the Project which it is required by law to carry out or approve and mitigating or avoiding only the direct or indirect environmental effects of those parts of the Project which it decides to carry out, finance, or approve. (Pub. Resources Code, § 21002.1, subd. (d); CEQA Guidelines, § 15096, subds. (f), (g)(1).) Accordingly, because the Department's exercise of discretion is limited to issuance of the Permit, the Department is responsible for considering only the environmental effects that fall within its permitting authority under CESA.

This Permit, along with the Department's CEQA findings for the Permit and Project, which are available as a separate document, document the Department's consideration of the lead agency's EIR for the Project and the environmental effects related to issuance of the Permit. (CEQA Guidelines, § 15096, subd. (f).) The Department finds that issuance of the Permit will not result in any previously undisclosed potentially significant effects on the environment or a substantial increase in the severity of any potentially significant environmental effects previously disclosed by the lead agency. Furthermore, to the extent the potential for such effects exists, the Department finds adherence to and implementation of the lead agency's

[4] The "CEQA Guidelines" are found in Title 14 of the California Code of Regulations, commencing with section 15000.

conditions of approval as well as adherence to and implementation of the conditions of approval of the Permit will avoid or reduce to below a level of significance any such potential effects. The Department consequently finds that issuance of the Permit will not result in any significant, adverse impacts on the environment.

CESA Findings

With respect to CESA, the Department finds that, in issuing the Permit, all of the following conditions have been met:

(1) Take of Covered Species as defined in the Permit will be incidental to the otherwise lawful activities covered under the Permit;

(2) Impacts of the taking of the Covered Species will be minimized and fully mitigated through the implementation of measures required by this Permit and as described in the Mitigation Monitoring and Reporting Program (MMRP). Measures include: 1) monthly compliance reports; 2) land compensation for species where habitat is impacted; and 3) an education program for all persons working on-site.

(3) The take avoidance and mitigation measures required pursuant to the conditions of this Permit and its attachments are roughly proportional in extent to the impact of Permittee's take.

(4) The measures required by this Permit maintain Permittee's objectives to the greatest extent possible;

(5) All required measures are capable of successful implementation;

(6) The Permit is consistent with any regulations adopted pursuant to Fish and Game Code sections 2112 and 2114;

(7) Permittee has ensured adequate funding to implement the measures required by the Permit as well as for monitoring compliance with, and the effectiveness of, those measures for the Project; and

(8) Issuance of the Permit will not jeopardize the continued existence of the Covered Species based on the best scientific and other information reasonably available, and this finding includes consideration of the species' capability to survive and reproduce, and any adverse impacts of the taking on those abilities in light of (a) known population trends; (b) known threats to the species; and (c) reasonably foreseeable impacts on the species from other related projects and activities. Moreover, the Department's finding is based, in part, on the Department's express authority to

amend the terms and conditions of the Permit without concurrence of the Permittee as necessary to avoid jeopardy and as required by law.

Attachments:

ATTACHMENT 1	Mitigation Monitoring and Reporting Program
ATTACHMENT 2A,2B	Habitat Management Lands Checklist; PLFAF Form
ATTACHMENT 3	Mitigation Payment Transmittal Form
ATTACHMENT 4	Letter of Credit Form
ATTACHMENT 5	Copper Mountain College Master Site Plan

ISSUED BY THE CALIFORNIA DEPARTMENT OF FISH AND GAME

on 09/21/06.

for Curt Taucher Acting

CURT TAUCHER, Regional Manager
EASTERN SIERRA-INLAND DESERTS REGION

APPROVED AS TO FORM:

STEPHEN ADAMS
Deputy General Counsel

ACKNOWLEDGMENT

The undersigned: 1) warrants that he or she is acting as a duly authorized representative of the Permittee, 2) acknowledges receipt of this Permit, and 3) agrees on behalf of the Permittee to comply with all terms and conditions of the Permit.

By: Kindred Murillo Date: November 22 2006

Printed Name: Kindred Murillo Title: V.P. Finance & Admin

California Department of Fish and Game
Inland Deserts Region
407 West Line Street
Bishop, CA 93514

California Endangered Species Act
Incidental Take Permit No. 2081-2009-018-06

Coso Operating Company LLC
Coso Hay Ranch Water Extraction and Delivery System

Authority: This California Endangered Species Act (CESA) Incidental Take Permit (ITP) is issued by the Department of Fish and Game (DFG) pursuant to Fish and Game Code sections 2081(b) and 2081(c), and California Code of Regulations, title 14, subdivision 3, chapter 6, article 1, commencing with section 783. CESA prohibits the take[1] of any species of wildlife designated as an endangered, threatened, or candidate species[2] by the Fish and Game Commission. DFG, however, may authorize the take of such species by permit if the conditions set forth in Fish and Game Code sections 2081(b) and 2081(c) are met. (See also Cal. Code Regs., tit. 14, § 783.4.)

Permittee:	**Coso Operating Company LLC**
Name and title of principal officer:	**Chris Ellis, Site Manager** **(760) 764-1300 x207**
Contact person:	**Colleen Brock, Compliance Officer** **(760) 764-1300 x617**
Mailing address:	**PO Box 1690** **Inyokern, CA 93527**

Effective Date and Expiration Date of the ITP:
This ITP shall be executed in duplicate original form and shall become effective once a duplicate original is acknowledged by signature of the Permittee on the last page of the ITP and returned to DFG's Habitat Conservation Planning Branch at the address listed in the Notices section of this ITP. Unless renewed by DFG, this ITP's authorization to take the Covered Species shall expire on **September 15, 2010.**

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[1] Pursuant to Fish and Game Code section 86, "'Take' means hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture or kill."

[2] "Candidate species" are species of wildlife that have not yet been placed on the list of endangered species or the list of threatened species, but which are under formal consideration for listing pursuant to Fish and Game Code section 2074.2.

Project Location:
The Project site is located within the US Geological Survey (USGS) 7.5-minute Series Coso Junction and Cactus Peak Topographic quadrangles, Section 25, 26, 35, and 36 of Township 21 South and Range 37 East; Section 31, 32, 33, and 34 of Township 21 South and Range 38 East; and Section 1, 2, and 3 of Township 22 South and Range 38 East.

Brief Project Description:
The Project description included herein is summarized from the final Environmental Impact Report (FEIR) (Inyo County, Dec. 2008). The Coso Operating Company LLC (Permittee) submitted an application to the County of Inyo for a 30-year conditional use permit for the proposed Project. The Project includes the construction of a groundwater extraction and pipeline delivery system from the Coso Hay Ranch to the water injection system located at the Coso Geothermal Field at China Lake Naval Air Weapons Station (Project) [Figure 1].

Project Description Details:
The Project includes construction of west terminus facilities located on the Hay Ranch parcel that will pump groundwater. Hay Ranch parcel Project facilities include the existing water wells, a new lift pump station, electrical substation, an unpaved parking area, and a 250,000-gallon water storage tank. Three existing facilities (*i.e.*, a metal storage building and two mobile homes) will be removed.

A water pipeline will connect the Hay Ranch parcel facilities to the aquifer injection site located generally east/southeast on the Naval Air Weapons Station. The water pipeline extending from the Hay Ranch parcel to the Naval Air Weapons Station will be 20 inches in diameter and approximately 9.3 miles in length and will be located for most of its length approximately 50 feet from the edge of an existing road. The pipeline will be buried where possible at a depth of three feet. Where volcanic rock outcrops make burying difficult, the pipeline will lay on the surface. The existing geothermal power plants are located approximately 1.5 to 2 miles from the point of injection; no construction is proposed at the power plants.

Combination air relief/vacuum valves will be installed where needed along the pipeline in 18 pre-cast concrete vaults. Vent lines for these valves will be piped directly above the pipe within the pipeline right-of-way and within a concrete vault with a cover at grade. Low point drain valves will be constructed at the west and east terminus of the pipeline.

The construction right-of-way will be 50 feet wide and follow the alignment shown in Fig. 2.3-1 of the FEIR, Inyo County, Dec. 2008 [Figure 1]. Trenching equipment, cranes, welders, and earthmoving equipment will be used to install the pipeline. Grading in steeper areas will be minimized by constructing the right-of-way perpendicular to the contours. All cut and fill material will be balanced. The top eight inches of topsoil and vegetation will be removed,

inspected for noxious weeds, and stockpiled in a manner to minimize erosion or degradation of the plant medium and seeds.

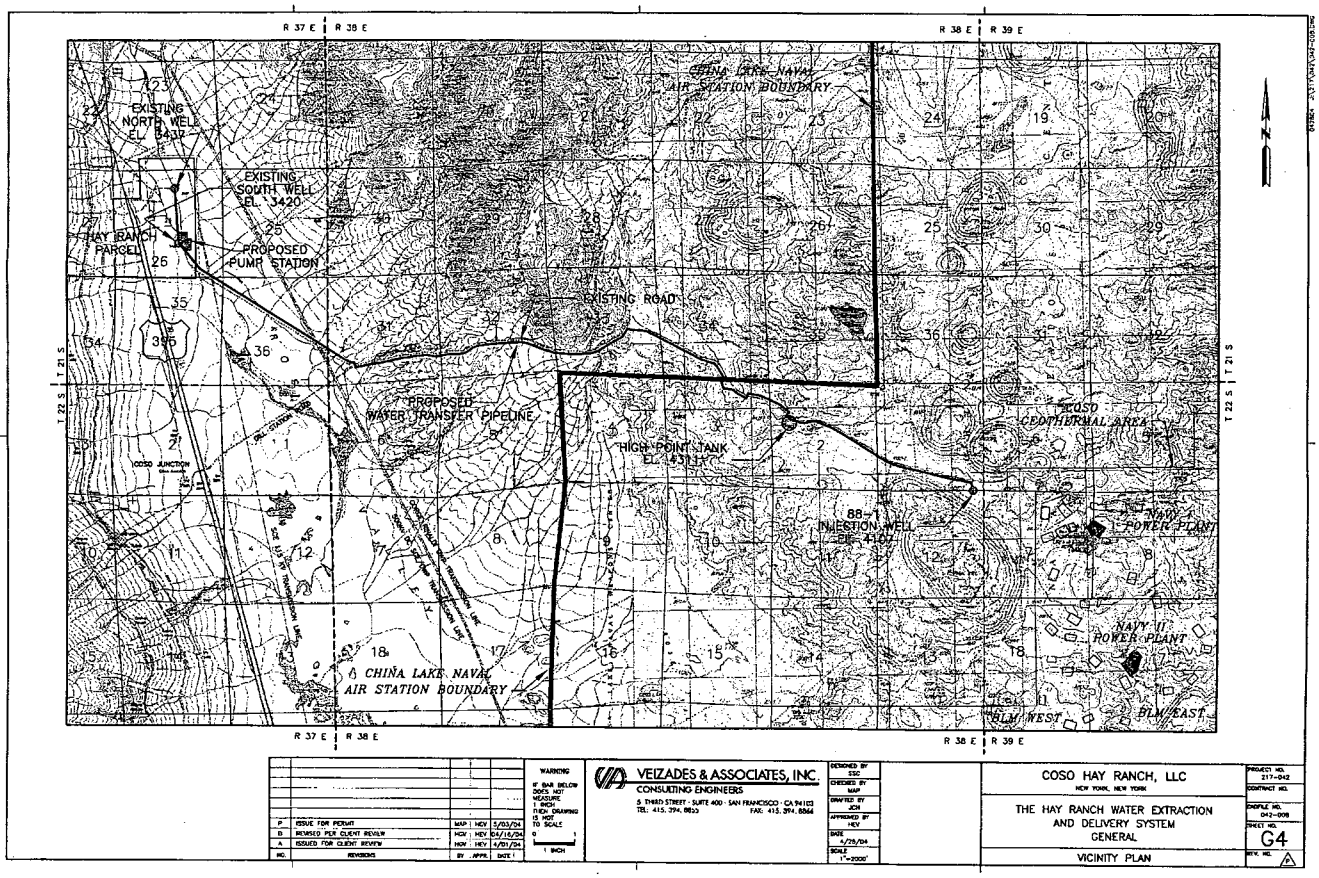

Figure 1. Location of Coso Hay Ranch Project

Project construction will take approximately 110 days, including both construction and right-of-way restoration (per the 1988 Revegetation Plan for the China Lake Joint Venture Geothermal Development). All Project traffic associated with construction, staging, and ingress and egress will utilize existing roads and right-of-way corridors. All future maintenance and decommissioning activities are outside the scope of this ITP.

Covered Species Subject to Take Authorization Provided by this ITP:

Name	CESA Status[3]
Mammals	
1. Mohave ground squirrel (*Spermophilus mohavensis*)	Threatened
Reptiles	
1. Desert tortoise (*Gopherus agassizii*)	Threatened

These species and only these species are hereinafter referred to as "Covered Species."

Impacts to Covered Species:
Incidental take of individuals of the Covered Species may occur as a result of capture/relocation or mortality due to all Project-related construction activities including Project-related traffic, staging, parking, and mitigation measures designed to minimize lethal take of desert tortoise. Impacts to Covered Species also include temporal losses, increased habitat fragmentation and edge effects, and the Project's incremental contribution to cumulative impacts (indirect impacts).

The Project site supports some high-quality habitat for the Mohave ground squirrel, consisting of creosote bush scrub supporting a diverse mix of sub-shrubs and herbaceous plants capable of supporting populations of this species. The majority of the private Hay Ranch Parcel constitutes lower quality Mohave ground squirrel habitat due to past agricultural practices, but some higher quality habitat occurs along the pipeline route within the Hay Ranch Parcel.

The entire Project site is near the northern extent of the range of the desert tortoise in this area, at an elevation range of 3,400 feet to 4,100 feet, above elevations where desert tortoises are commonly found. Additionally, volcanic substrates found within portions of the Project area and abandoned agricultural areas are less likely to provide suitable habitats for tortoise burrowing and foraging. DFG has determined that the potential for Project-related take of desert tortoise is low; nevertheless, take coverage for desert tortoise is provided by this ITP.

A total of approximately 59.60 acres will be disturbed by Project construction, of which approximately 53.5 acres are considered temporary impacts and 6.1 acres are considered permanent impacts. Table 1 (modified from the FEIR, Inyo County, Dec. 2008) depicts the approximate acreages of the Project facilities.

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[3] Under CESA, a species may be on the list of endangered species, the list of threatened species, or the list of candidate species. All other species are "unlisted."

Hay Ranch Parcel

The Project will result in disturbance of approximately 9.85 acres of habitat on the private Hay Ranch parcel for the Covered Species. Temporary impacts on the Hay Ranch parcel total 4.5 acres for the pipeline and are defined for purposes of this ITP as areas that will be revegetated following construction. Permanent impacts on the Hay Ranch parcel total 5.35 acres, consisting of .10 acres for wells, 4.75 acres for the lift pump station, and .50 acres for the substation and subtransmission line, and are defined as those that will not be revegetated until Project decommission.

Federal Land

Approximately 49.75 acres of impact associated with the pipeline route and the lift pump station will be located on Federal land, consisting of: (a) 33.20 acres on Bureau of Land Management (BLM) land; (b) 15.80 acres on the China Lake Naval Air Weapons Station; and (c) an additional 0.75 acre of disturbance will take place on the Naval Air Weapons Station for the construction of the high point tank. All impacts on BLM land (33.20 acres) and 15.80 acres of impacts on Navy land will be temporary, as the pipeline corridor will be buried and revegetated following construction, except for a negligible area (500 feet of unburied 20-inch pipeline - approximately 0.02 acre) in volcanic outcrop areas. The area required for construction of the high point tank (0.75 acre) is considered a permanent impact.

Table 1. Project Impact Summary

Facility	Acreage	Location
Wells (Permanent Impact)	.10	Hay Ranch parcel
Lift pump station (Permanent Impact)	4.75	Hay Ranch parcel
Substation & Subtransmission Line (Permanent Impact)	0.50	Hay Ranch parcel
High Point Tank (Permanent Impact)	0.75	Naval Air Weapons Station
Pipeline (Temporary Impact)	4.50	Hay Ranch parcel
	33.20	BLM land
	15.80	Naval Air Weapons Station
Total	**59.60**	

Stipulation for the Mitigation of Impacts to the Mohave Ground Squirrel at the Coso Known Geothermal Resource Area (1988)

DFG, the Navy, and BLM have developed the above-referenced Stipulation (Attachment 6) to provide a mechanism for geothermal developers to mitigate temporary and permanent impacts to Mohave ground squirrel in the Coso Known Geothermal Resource Area. DFG approved the original Stipulation on October 7, 1988, and a modification was approved by DFG on February 27, 1990. The Stipulation provides mitigation for up to 2,158 acres of

disturbance to Mohave ground squirrel habitat within the China Lake Naval Weapons Center and up to 35 acres of disturbance to Mohave ground squirrel habitat on public lands outside the China Lake Naval Weapons Center. The mitigation plan described in the Stipulation has already been fully funded and implemented by the geothermal developers. Specific measures include: elimination of incompatible land management practices within approximately 43,500 acres of Mohave ground squirrel habitat; funding Mohave Ground Squirrel research; and rehabilitation of temporarily disturbed areas. To date, approximately 488 acres of the 2,158-acre maximum anticipated impact area for Navy land have been debited, and none of the 35 acres anticipated for other public lands have been debited. To provide mitigation for impacts to Mohave Ground Squirrel on Federal lands affected by this Project, the Permittee has agreed to debit 16.55 acres from the remaining total pertaining to Navy land and 33.20 from the remaining total for BLM land.

Incidental Take Authorization of Covered Species:
This ITP authorizes incidental take of the Covered Species and only the Covered Species. With respect to incidental take of the Covered Species, DFG authorizes the Permittee, its employees, contractors, and agents to take Covered Species incidentally in carrying out the Project, subject to the limitations described in this section and the Conditions of Approval identified below. This ITP does not authorize take of Covered Species from activities outside the scope of the Project as described above, take of Covered Species resulting from violation of this ITP, or intentional take of Covered Species.

Conditions of Approval:
Unless specified otherwise, the following measures shall pertain to all ground- or vegetation-disturbing activities within the Project construction boundaries, including areas used for ingress and egress routes during construction. DFG's issuance of this ITP and the Permittee's authorization to take the Covered Species are subject to the Permittee's compliance with and implementation of the following Conditions of Approval:

1. The Permittee shall comply with all applicable State, federal, and local laws in existence on the effective date of this ITP or adopted thereafter.

2. The Permittee shall implement and adhere to the mitigation measures related to the Covered Species in the Biological Resources section of Appendix 1, Tables 2-1 and 2-2 of the FEIR adopted by the lead agency, Inyo County for Coso Operating Company Hay Ranch Water Extraction and Delivery System under the California Environmental Quality Act (CEQA) on December 2008. Additionally, the Permittee shall implement and adhere to the mitigation measures related to the Covered Species in the Biological Opinion ((6840/2880(P) CACA-046289 CA-650.25) (1-8-08-F-42)) issued by the U.S. Fish and Wildlife Service on December 17, 2008.

3. The Permittee shall fully implement and adhere to the conditions of this ITP within the time frames set forth below and as set forth in the Mitigation Monitoring and Reporting Program (MMRP), which is included as Attachment 1 to this ITP.

4. General Provisions:

4.1. Before initiating ground- or vegetation-disturbing Project activities, the Permittee shall designate a representative (Designated Representative) responsible for communications with DFG and overseeing compliance with this ITP. The Permittee shall notify DFG in writing prior to commencement of ground- or vegetation-disturbing activities of the Designated Representative's name, business address, and contact information, and shall notify DFG in writing if a substitute Designated Representative is selected or identified at any time during the term of this ITP.

4.2. At least fourteen (14) days before initiating ground- or vegetation-disturbing activities, the Permittee shall submit to DFG in writing the name, qualifications, business address, and contact information for a Designated Biologist (DB) who will conduct Project monitoring. The DB shall be knowledgeable and experienced in the biology and natural history of the Covered Species. The DB shall be responsible for monitoring construction and/or ground- or vegetation-disturbing activities in areas of Covered Species' habitat to help minimize or avoid the incidental take of individual Covered Species and to minimize disturbance of Covered Species' habitat. The Permittee shall obtain DFG approval of the DB prior to the commencement of Project-related activities that may result in the incidental take of the Covered Species.

4.3. To ensure compliance with the Conditions of Approval of this ITP, the DB shall have authority to immediately stop any activity that is not in compliance with this ITP, and/or to order any reasonable measure to avoid the take of an individual of the Covered Species.

4.4. The Permittee shall conduct an education program for all persons employed or otherwise working on the Project site prior to performing any work on-site. The program shall consist of a presentation from the DB that includes a discussion of the biology and general behavior of the Covered Species, information about the distribution and habitat needs of the Covered Species, sensitivity of the Covered Species to human activities, its status under CESA including legal protection, recovery efforts, penalties for violations and Project-specific protective measures described in this ITP, including construction personnel responsibilities described in condition 6.5 of this ITP. Interpretation shall be provided for non-English speaking workers, and the same instruction shall be provided for any new workers prior to

their performing work on-site. Copies of this ITP shall be maintained at the worksite. The Permittee shall prepare and distribute wallet-sized cards or a fact sheet handout containing this information for workers to carry on-site. Upon completion of the program, employees shall sign a form stating they attended the program and understand all protection measures. These forms shall be filed at the worksite offices and shall be available to DFG upon request.

4.5. The Permittee shall initiate a trash abatement program during pre-construction phases of the Project and continue the program throughout the duration of the Project. Trash and food items shall be contained in closed (raven-proof) containers and removed regularly (at least once a week) to avoid attracting opportunistic predators such as ravens, coyotes, and feral dogs.

4.6. The Permittee shall implement dust control measures during Project activities to facilitate visibility for monitoring of the Covered Species by the DB.

4.7. The Permittee shall prohibit firearms and domestic dogs from the Project site and site access routes during construction and development of the Project, except those in the possession of authorized security personnel or local, State, or federal law enforcement officials.

4.8. Prior to Project commencement, the Permittee shall clearly delineate property boundaries of the Project site with fencing, stakes or flags and shall similarly delineate the limits of construction areas. These areas shall remain marked throughout Project construction, but shall be removed following Project completion.

4.9. Not more than seven (7) days prior to Project commencement, the Permittee shall clearly delineate habitat of the Covered Species on the Project site with posted signs, posting stakes, flags, and/or rope or cord, and place fencing as necessary to minimize disturbance of Covered Species' habitat. These areas shall remain marked throughout Project construction, but shall be removed following Project completion. Conditions described in Section 6 of this ITP describe specific fencing procedures.

4.10. Project-related personnel shall access the Project site during construction and development activities using existing routes and shall not cross Covered Species' habitat outside of and in route to the Project site. Project-related vehicle traffic shall be restricted to established roads, staging, and parking areas. Vehicle speeds shall not exceed twenty (20) mph in order to avoid Covered Species on or traversing the roads. If the Permittee determines construction of off-site routes for travel are necessary, the Permittee shall contact DFG prior to carrying out any

such activity. DFG may require an amendment to this ITP if additional take of Covered Species may result from Project modification.

4.11. The Permittee shall confine all Project-related parking, storage areas, laydown sites, equipment storage, and any other surface-disturbing activities to the Project site using, to the extent possible, previously disturbed areas. Additionally, the Permittee shall not use or cross Covered Species' habitat outside of the marked Project boundaries unless specifically provided for in this ITP.

4.12. The Permittee shall immediately stop/repair and clean up any fuel or hazardous waste leaks or spills on the Project site during construction and development activities at the time of occurrence. The Permittee shall exclude the storage and handling of hazardous materials from the construction zone and shall properly contain and dispose of any unused or leftover hazardous products off-site.

4.13. The Permittee shall provide DFG staff with reasonable access to the Project site and mitigation lands under Permittee control, and shall otherwise fully cooperate with DFG efforts to verify compliance with or effectiveness of mitigation measures set forth in the ITP. Neither the DB nor DFG shall be liable for any costs incurred in complying with the Conditions of Approval, including cease-work orders issued by DFG.

4.14. Upon completion of Project construction, the Permittee shall remove from the Project site and properly dispose of all construction refuse, including, but not limited to, broken equipment parts, wrapping material, cords, cables, wire, rope, strapping, twine, buckets, metal or plastic containers, and boxes.

4.15. Upon completion of Project construction, the Permittee shall restore the right-of-way by finish grading, installing water bars, and applying erosion protection in accordance with the Permittee's approved revegetation plan (Attachment 5), including the performance of all monitoring and remedial efforts, when necessary, until revegetation meets the success criteria in the revegetation plan. Permittee shall document the success of the restoration efforts by providing a final revegetation report to DFG in accordance with Condition 5.7 of this ITP.

4.16. Notwithstanding any expiration date on the take authorization provided by this ITP, the Permittee's obligations under this ITP do not end until DFG accepts as complete the Permittee's Final Mitigation Report required by Condition 5.6 of this ITP.

5. Monitoring, Notification and Reporting Provisions:

5.1. The Permittee shall notify DFG fourteen (14) calendar days before initiating ground- or vegetation-disturbing activities and shall document compliance with all pre-Project Conditions of Approval before initiating ground- or vegetation-disturbing activities.

5.2. The Permittee shall immediately notify DFG in writing if it determines that it is not in compliance with any condition of approval of this ITP, including but not limited to any actual or anticipated failure to implement mitigation measures within the time periods indicated in this ITP and/or the MMRP. The Permittee shall report any non-compliance with the ITP during the construction phase of the Project to DFG within twenty-four (24) hours.

5.3. Monthly Compliance Report: The DB shall be on-site daily while construction and/or surface-disturbing activities are taking place to minimize take of the Covered Species; to check for compliance with all mitigation and avoidance measures; to check all exclusion zones; to ensure that signs, stakes, and fencing are intact, and that human activities are restricted to outside of these protective zones. The DB shall prepare and submit monthly compliance reports to DFG's Regional Office listed in the Notices section of this ITP or via e-mail to DFG's Regional Representative, Debra Hawk, at dhawk@dfg.ca.gov.

5.4. DFG may conduct compliance inspections at any time during the Project. DFG may increase the timing and number of compliance inspections and reports required under Condition 5.3 depending upon the results of previous compliance inspections.

5.5. The Designated Representative or DB shall prepare written reports of all observations of Covered Species and their sign, oversight activities, verifications, compliance inspections, surveys, monitoring, and records required by this ITP. These written reports shall be included in the monthly Compliance Report required to be submitted under the ITP (see Condition 5.3). DFG can change this condition at any time to require that additional reports are generated. If DFG determines the reporting schedule is inadequate, DFG will notify the Permittee by letter of the new reporting schedule.

5.6. Final Mitigation Report: No later than forty-five (45) days after completion of the Project, including completion of all mitigation measures, the Permittee shall provide DFG with a Final Mitigation Report. The Final Mitigation Report shall be prepared by the DB and shall include, at a minimum: 1) a copy of the table in the MMRP with notes showing when each of the mitigation measures was implemented; 2) all

available information about Project-related incidental take of the Covered Species; 3) information about other Project impacts on the Covered Species; 4) construction dates; 5) an assessment of the effectiveness of the ITP's Conditions of Approval in minimizing and compensating for Project impacts; 6) recommendations on how mitigation measures might be changed to more effectively minimize and mitigate the impacts of future Projects on the Covered Species; 7) a table listing final acreages of permanent and temporary impacts by land ownership; and 8) any other pertinent information, including the level of take of the Covered Species associated with the Project.

5.7. Final Revegetation Report: After successful completion of the revegetation of the temporary disturbance areas, as described in Condition 4.15 of this ITP, the Permittee shall provide DFG with a final revegetation report that includes documentation of annual monitoring results and demonstrates the success criteria in the revegetation plan have been met.

6. Take Avoidance and Minimization Measures:
Take avoidance of Covered Species is the first priority of this ITP. Relocation of Covered Species discovered within the work area prior to ground- or vegetation-disturbing activities, as well as during Project construction, is the second priority of this ITP. The Permittee shall implement and adhere to the following conditions to avoid or minimize take of Covered Species.

6.1 Prior to initiating ground- or vegetation-disturbing Project activities, and prior to tortoise clearance surveys described in Condition 6.2 of this ITP, a tortoise-proof exclusion fence shall be constructed on all sides of the proposed Project construction area including lay down and stockpile sites in potential tortoise habitat. To further minimize take of desert tortoise habitat, all Project boundaries shall be clearly staked, and all activities shall be restricted to the defined Project site. Installation of exclusion fencing may be phased as segments of the pipeline are completed and new segments initiated. Exclusion fencing must be removed after completion of work activities.

6.2 Prior to initiating ground- or vegetation-disturbing Project activities, the DB shall survey the Project site to identify individual desert tortoises that may be within or very near Project boundaries. The purpose of the survey would be to temporarily relocate or salvage tortoises from the area of construction and any other area deemed necessary to avoid or minimize the death of desert tortoises that may be caused by the Project. This clearance survey requires full coverage of the Project area, and shall focus on locating all desert tortoises above and below ground within the Project area. Because adult tortoises are most likely to be active above ground

from February 15 to November 15 and least likely from November 16 to February 14, preconstruction surveys shall be conducted within 48 hours or less before construction from February 15 to November 15; and shall be conducted within two weeks prior to construction between November 16 and February 14. All suspected tortoise burrows (as determined by the DB) in the construction zone, including those not recently used, shall be excavated by the DB at the time of the survey and collapsed to prevent re-entry. Preconstruction surveys may be phased to coincide with initiation of construction at specific locations, or pipeline corridor segments.

6.3 If one or more desert tortoises are detected within the exclusion fence during the pre-construction clearance survey, the DB shall move the animal(s) to suitable habitat outside the work area and place the animal(s) in a natural or artificial burrow or under a shrub, depending on the time of day and year, in consultation with DFG and in accordance with the *Guidelines for Handling Desert Tortoises During Construction Projects* (Desert Tortoise Council rev. 1999). If deemed necessary by the DB, desert tortoise may be enclosed in a fence to temporarily restrain its movement; the fence around the desert tortoise must be removed after completion of work activities near the temporary fence.

6.4 The DB shall be on-site during all phases of construction to keep individual desert tortoises out of harm's way. The DB shall inspect the exclusion fence frequently to ensure its continued integrity, and the fence shall be re-inspected immediately following rainfall. If the fence is damaged or breached, potentially allowing tortoises to enter the Project area, all work shall stop until the DB has re-surveyed the Project area. Any tortoises identified within the Project area (i.e., inside the exclusion fence) shall be immediately removed by the DB from the Project area. The DB shall immediately notify DFG of the incident, and a relocation option will be coordinated with DFG, as described in Condition 6.3 of this ITP. Notification to DFG shall be via telephone, followed by a written incident report. Notification shall include the date, time, location and circumstances of the incident, the name of the DB that actually relocated the tortoise, and the location (including GPS coordinates) where the animal was moved. Only tortoises within the construction right-of-way shall be handled and only by the DB.

6.5 Construction personnel shall look for Covered Species under vehicles and in and around other equipment, including pipeline segments being stored on site, before they are moved. If a Covered Species is present, the vehicle will not be moved until the Covered Species has moved from under the vehicle and out of harm's way, or the DB has relocated the animal.

6.6 If a Covered Species is killed or injured by Project-related activities during construction of the Project, or if a Covered Species is otherwise found dead or injured within the Project boundary, the Permittee shall immediately notify the DB. The DB shall immediately call the DFG Regional Office at (760) 872-1171. The initial notification to DFG shall include information regarding the location, species, number of animals injured or killed, and the ITP Number. Following the initial notification, the Permittee shall send DFG a written report within two (2) calendar days. The report shall include the date and time of the finding or incident, location of the carcass, and if possible provide a photograph, explanation as to cause of death, and any other pertinent information.

6.7 If a Covered Species is injured as a result of Project-related activities, it shall be immediately taken to a DFG-approved wildlife rehabilitation or veterinary facility. The Permittee shall identify the facility prior to the start of ground- or vegetation-disturbing activities. The Permittee shall bear any costs associated with the care or treatment of such injured Covered Species. The Permittee shall notify DFG of the injury to the Covered Species immediately. Notification to DFG shall be via telephone followed by a written incident report. Notification shall include the date, time, location and circumstances of the incident and the name of the facility where the animal was taken.

6.8 Open trenches, auger holes, or other excavations that may trap Covered Species must be inspected by the DB before back filling. Any Covered Species found must be safely removed and relocated out of harm's way by the DB. Earthen escape ramps (no steeper than 2:1 slope) must be maintained in open trenches at intervals of no greater than 0.25 mile. Open pipeline trenches will be inspected three (3) times per day. Other excavations that remain open overnight must be covered to prevent them from becoming traps.

Compensation for Take:

7. Habitat Management Land Acquisition and Funding Assurances:
DFG has determined that permanent protection of compensatory habitat is necessary and required under CESA to fully mitigate impacts of the taking on Covered Species that will result from implementation of this Project. This determination is based on factors including an assessment of the quality of the habitat at the Project site and the increased habitat value for the listed species in question that can be achieved through land management at the mitigation location. The Permittee shall comply with both 7.1 and 7.2 below:

7.1. Participation in the Stipulation for the Mitigation of Impacts to the Mohave Ground Squirrel at the Coso Known Geothermal Resources Area (1988 Stipulation) (see Attachment 6):

7.1.1. Prior to initiating ground- or vegetation-disturbing Project activities, the Permittee shall debit 16.55 acres from the remaining total acreage allowed for land disturbance on the China Lake Naval Weapons Center, and shall debit 33.20 acres from the remaining total acreage allowed for land disturbance on BLM land within thirty (30) days after the effective date of this ITP.

7.1.2. No later than forty-five (45) days after the effective date of this ITP, the Permittee shall provide written documentation to DFG that the appropriate acreage adjustments set forth in Section 7.1.1 have been made to the surface disturbance ledger associated with the mitigation plan described in the Stipulation. This information shall also be provided to the California Energy Commission, BLM, and China Lake Naval Weapons Center.

7.2. Prior to initiating ground- or vegetation-disturbing Project activities, or no later than eighteen (18) months from the effective date of this ITP if Security is provided pursuant to Condition 8 below, the Permittee shall acquire and permanently preserve 20.55 acres of Habitat Management Lands (HM Lands). A minimum of three (3) months prior to acquisition of the HM Lands, the Permittee shall submit to DFG for approval a formal Proposed Lands for Acquisition Form (Attachment 2B) identifying the land to be purchased as mitigation for the Project's impacts on Covered Species. As part of this condition, the Permittee shall:

7.2.1. Transfer fee title to the HM Lands to DFG under terms approved by DFG. If fee title is held by an entity other than DFG, a conservation easement in a form approved by DFG shall be recorded on the title of the HM Lands. The grantee of the conservation easement may be DFG or a DFG-approved non-profit organization qualified pursuant to California Government Code section 65965 (approved entity). If an approved entity is the grantee on a conservation easement, DFG shall be named third-party beneficiary;

7.2.2. Provide a recent preliminary title report, initial hazardous materials survey report, and other necessary documents (Attachment 2A and 2B). All documents conveying the HM Lands and all conditions of title are subject to the approval of DFG, the Wildlife Conservation Board, and, if applicable, the Department of General Services;

7.2.3. Provide for the initial protection and enhancement of HM Lands as determined by DFG once the Permittee identifies the HM Lands. DFG estimates that initial protection and enhancement will cost approximately $1,000/acre for 20.55 acres. Alternatively, the Permittee may fund DFG's initial protection and enhancement of the lands by providing the funds required for the initial protection and enhancement to DFG or a DFG-approved non-profit organization qualified to hold mitigation funds;

7.2.4. Conduct a Property Analysis Record (PAR) or PAR-like analysis once the HM Lands have been identified to determine the appropriate endowment amount to fund the in-perpetuity management of the 20.55 acres of required HM Lands. The Permittee shall provide the required endowment to DFG after DFG reviews and approves the PAR. The Permittee shall provide funding assurances for the endowment in the Security (see Condition 8 below). Alternatively, prior to initiation of ground- or vegetation- disturbing Project activities, the Permittee shall provide to DFG a permanent non-wasting endowment in the amount of $1,300/acre for 20.55 acres. The per-acre amount is based on recent PAR analyses conducted on comparable lands in adjacent counties. Interest from the endowment amount shall be available for reinvestment in the principal and for the long-term operation, management, and protection of the HM Lands, including reasonable administrative overhead, biological monitoring, improvements to biological carrying capacity, law enforcement measures, and any other action designed to protect or improve the habitat values of the HM Lands. Monies received by DFG pursuant to this Condition shall be deposited in a special deposit account established pursuant to Fish and Game Code section 13014, where DFG may pool the endowment with other endowments for the operation, management and protection of HM Lands for local populations of the Covered Species. Alternatively, endowment funds may be held by a DFG-approved non-profit organization qualified to hold endowment funds;

7.2.5. Reimburse DFG for reasonable expenses incurred during title and documentation review, expenses incurred from other state agency reviews, and overhead related to transfer of HM Lands to DFG. DFG estimates that this Project will create an additional cost to DFG of no more than $3,000 for every fee title deed or easement processed.

8. Performance Security:

The Permittee may proceed with ground- or vegetation-disturbing activities before completing all of the required mitigation (including acquisition of HM Lands), monitoring, and reporting activities only if the Permittee ensures funding to complete those activities by providing to DFG, prior to commencing ground- or vegetation-disturbing activities or

within thirty (30) days after the effective date of this ITP, whichever occurs first, an irrevocable letter of credit (Attachment 4) or another form of security (Security) approved by DFG's Office of the General Counsel. The Security shall allow DFG to draw on the principal sum if DFG, at its sole discretion, determines the Permittee has failed to comply with the Conditions of Approval of this ITP. **The Security shall be in the amount of $108,915.00** based on the following estimated costs of implementing the ITP's mitigation, monitoring and reporting requirements:

8.1. Land acquisition costs for impacts to habitat, calculated at $3,000/acre for 20.55 acres: **$61,650.00;**

8.2. Costs of enhancing HM Lands, calculated at $1,000/acre for 20.55 acres: **$20,550.00;**

8.3. Endowment estimate, calculated at $1,300/acre for 20.55 acres: **$26,715.00.**

Even if Security is provided, the Permittee must complete the required acquisition, protection and transfer of all HM Lands and record the required conservation easements in favor of DFG no later than eighteen (18) months after the start of the ground- or vegetation-disturbing activities.

Amendment:
This ITP may be amended without the concurrence of the Permittee if DFG determines that continued implementation of the Project under existing ITP conditions will jeopardize the continued existence of the Covered Species or that Project changes or changed biological conditions necessitate an ITP amendment to ensure that impacts to the Covered Species are minimized and fully mitigated. DFG may also amend the ITP at any time without the concurrence of the Permittee as required by law.

Stop-Work Order:
DFG may issue the Permittee a written stop-work order to suspend any activity covered by this ITP for an initial period of up to twenty-five (25) days to prevent or remedy a violation of ITP conditions (including but not limited to failure to comply with reporting, monitoring, or habitat acquisition obligations) or to prevent the illegal take of an endangered, threatened, or candidate species. The Permittee shall comply with the stop-work order immediately upon receipt thereof. DFG may extend a stop-work order under this provision for a period not to exceed twenty-five (25) additional days, upon written notice to the Permittee. DFG shall commence the formal suspension process pursuant to California Code of Regulations, Title 14, Section 783.7 within five working days of issuing a stop-work order.

Compliance with Other Laws:
This ITP contains DFG's requirements for the Project pursuant to CESA. This ITP does not necessarily create an entitlement to proceed with the Project. The Permittee is responsible for complying with all other applicable State, federal, and local laws.

Notices:
The Permittee shall deliver the fully executed duplicate original ITP by first-class mail or overnight delivery to the following address:

Habitat Conservation Planning Branch
Attention: CESA Permitting Program
1416 Ninth Street, Suite 1260
Sacramento, CA 95814

Written notices, reports and other communications relating to this ITP shall be delivered to DFG by first-class mail at the following addresses, or at addresses DFG may subsequently provide the Permittee. Notices, reports, and other communications shall reference the Project name, Permittee, and ITP Number (2081-2009-018-06) in a cover letter and on any other associated documents.

Original cover with attachment(s) to:
Bruce Kinney, Deputy Regional Manager
Department of Fish and Game
407 West Line Street
Bishop, CA 93514

Copy of cover without attachment(s) to:
General Counsel
Department of Fish and Game
1416 Ninth Street, 12th Floor
Sacramento, CA 95814

And:
Habitat Conservation Planning Branch
Department of Fish and Game
1416 Ninth Street, Suite 1260
Sacramento, CA 95814

Unless the Permittee is notified otherwise, DFG's Regional Representative for purposes of addressing issues that arise during implementation of ITP conditions is:

Debra Hawk
Department of Fish and Game
407 West Line Street
Bishop, CA 93514
(760) 872-1126

Findings Under CESA:
These findings are intended to document DFG's compliance with the specific findings requirements set forth in CESA and related regulations. (Fish & G. Code, 2081, subs. (b)-(c); Cal. Code Regs., tit. 14, §§ 783.4, subds. (a)-(b), 783.5, subd. (c)(2).)

DFG finds that issuance of this ITP complies and is consistent with the criteria governing the issuance of ITPs under CESA:

(1) Take of Covered Species as defined in the ITP will be incidental to the otherwise lawful activities covered under the ITP;

(2) Impacts of the taking of the Covered Species will be minimized and fully mitigated through the implementation of measures required by this ITP and as described in the MMMRP. Measures include: 1) Monthly Compliance Reports; 2) establishment of avoidance zones; 3) worker education; and 4) permanent habitat protection. DFG evaluated the quality of the habitat on the Project site, the scope and extent of direct impacts, the scope and extent of indirect impacts, and other relevant information available to DFG or provided by the Permittee. Based on this evaluation, DFG determined that the protection and management in perpetuity of 70.3 acres of compensatory habitat that is contiguous with other protected Covered Species habitat and/or is of higher quality than the habitat being destroyed by the Project, along with the minimization, monitoring, reporting, and funding requirements of this ITP fully mitigates the impacts of the taking caused by the Project;

(3) The take avoidance and mitigation measures required pursuant to the conditions of this ITP and its attachments are roughly proportional to the impacts of the taking authorized by this ITP;

(4) The measures required by this ITP maintain the Permittee's objectives to the greatest extent possible;

(5) All required measures are capable of successful implementation;

(6) The ITP is consistent with any regulations adopted pursuant to Fish and Game Code sections 2112 and 2114;

(7) The Permittee has ensured adequate funding to implement the measures required by

the ITP as well as for monitoring compliance with, and the effectiveness of, those measures for the Project; and

(8) Issuance of the ITP will not jeopardize the continued existence of the Covered Species based on the best scientific and other information reasonably available, and this finding includes consideration of the species' capability to survive and reproduce, and any adverse impacts of the taking on those abilities in light of (a) known population trends; (b) known threats to the species; and (c) reasonably foreseeable impacts on the species from other related Projects and activities. Moreover, DFG's finding is based, in part, on DFG's express authority to amend the terms and conditions of the ITP without concurrence of the Permittee as necessary to avoid jeopardy and as required by law.

Attachments:

ATTACHMENT 1	Mitigation Monitoring and Reporting Program
ATTACHMENT 2A	Habitat Management Lands Checklist
ATTACHMENT 2B	PLFAF Form
ATTACHMENT 3	Mitigation Payment Transmittal Form
ATTACHMENT 4	Letter of Credit Form
ATTACHMENT 5	1988 Revegetation Plan
ATTACHMENT 6	Stipulation for the Mitigation of Impacts to the Mohave Ground Squirrel at the Coso Known Geothermal Resource Area

ISSUED BY THE CALIFORNIA DEPARTMENT OF FISH AND GAME
on Sept. 23 2009.

Curt Taucher, Regional Manager
REGION 6

APPROVED AS TO FORM:

Ann S. Malcolm
General Counsel

ACKNOWLEDGMENT

The undersigned: 1) warrants that he or she is acting as a duly authorized representative of the Permittee, 2) acknowledges receipt of this ITP, and 3) agrees on behalf of the Permittee to comply with all terms and conditions of the ITP.

By:_____ Date: _____

Printed Name:_____ Title: _____

ISSUED BY THE CALIFORNIA DEPARTMENT OF FISH AND GAME
on SEPT. 23 2009.

Curt Taucher, Regional Manager
REGION 6

APPROVED AS TO FORM:

Ann S. Malcolm
General Counsel

ACKNOWLEDGMENT

The undersigned: 1) warrants that he or she is acting as a duly authorized representative of the Permittee, 2) acknowledges receipt of this ITP, and 3) agrees on behalf of the Permittee to comply with all terms and conditions of the ITP.

By: _____ Date: 9-23-09

Printed Name: Joseph Greco Title: Senior Vice President

California Department of Fish and Game
San Joaquin Valley-Southern Sierra Region
1234 East Shaw Avenue
Fresno, California 93710

California Endangered Species Act
Incidental Take Permit No. 2081-2005-015-04

U.S. Borax, Inc.
Life of Mine Project
Kern and San Bernardino Counties

Authority: This California Endangered Species Act ("CESA") Incidental Take Permit ("Permit") is issued by the Department of Fish and Game ("Department") pursuant to Fish and Game Code Section 2081(b) and Section 2081(c), and California Code of Regulations, Title 14, Subdivision 3, Chapter 6, Article 1, commencing with Section 783. CESA prohibits the take[1] of any species of wildlife that is included in the list of endangered species, the list of threatened species, or the list of candidate species[2]. However, the Department may authorize, by permit, the take of such species if the conditions set forth in Section 2081(b) and Section 2081(c) are met.

Permittee: U.S. Borax Inc.

Name and title of principal officer:
Mr. Chris J. Robison, Chief Operations Officer, U.S. Borax, Inc.

Contact Person/Project Representative:
Mr. David A. Weiss, Principal Environmental Engineer, U.S. Borax, Inc.

Mailing Address:
U.S. Borax Inc.
14486 Borax Road
Boron, California 93516-2000
Phone (760) 762-7460
Fax (760) 762-7531
Mobile (661) 816-3545

[1] Pursuant to Fish and Game Code Section 86, "'Take' means hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture or kill."

[2] Candidate species" are species of wildlife that have not yet been placed on the list of endangered species or the list of threatened species, but which are under formal consideration for listing pursuant to Fish and Game Code Section 2074.2.

Effective date and expiration date of Permit:
This Permit shall be executed in duplicate original form and shall become effective once a duplicate original is properly acknowledged by the Permittee and returned to the Department. Unless renewed by the Department, this Permit's authorization to take the Covered Species shall expire on **June 30, 2045**.

Project Location:
The Project location is shown in **Figure 1**. The Project will be located in primarily the northern and eastern areas of the U.S. Borax, Boron Operations Mine near Boron, California. The Project area is located in portions of Sections 1, 2, 10, 12, and 16, T11N, R8W, and Sections 20, 21, 29, 30, T11N, R7W, SBB&M, in Kern and San Bernardino Counties.

Project Description:
The 1,833 acre Project includes increasing the existing U.S. Borax mine overburden and gangue stockpile areas in both area and height, as well as construction of new boric acid ponds and flood control catchment basins.[3] A detailed description of these activities follows, and the footprint of each proposed activity is shown in **Figure 2**.

Construction of New Boric Acid Ponds (164 acres), T11N, R8W, San Bernardino Base and Meridian (SBB&M), Section 16, NW ¼

- Four boric acid ponds will be built and lined per Title 27 of the California Code of Regulations to assist in the reprocessing of boric acid. Permits for the operation of the ponds will be issued by the Lahontan Regional Water Quality Control Board (LRWQCB) before construction begins. The boric acid ponds are constructed to receive effluent from the boric acid plant, up to a maximum of 840,000 gallons per day of water containing boron and minor amounts of arsenic. The ponds will be constructed with two high-density polyethylene (HDPE) liner systems and two leachate collection and removal systems, one located beneath each liner. The HDPE liner systems will be underlain by a compacted, low permeability clay base.

Construction of New Flood Control Catchment Basins (39 acres), T11N, R7W, SBB&M Sections 20, 21, 29, and 30

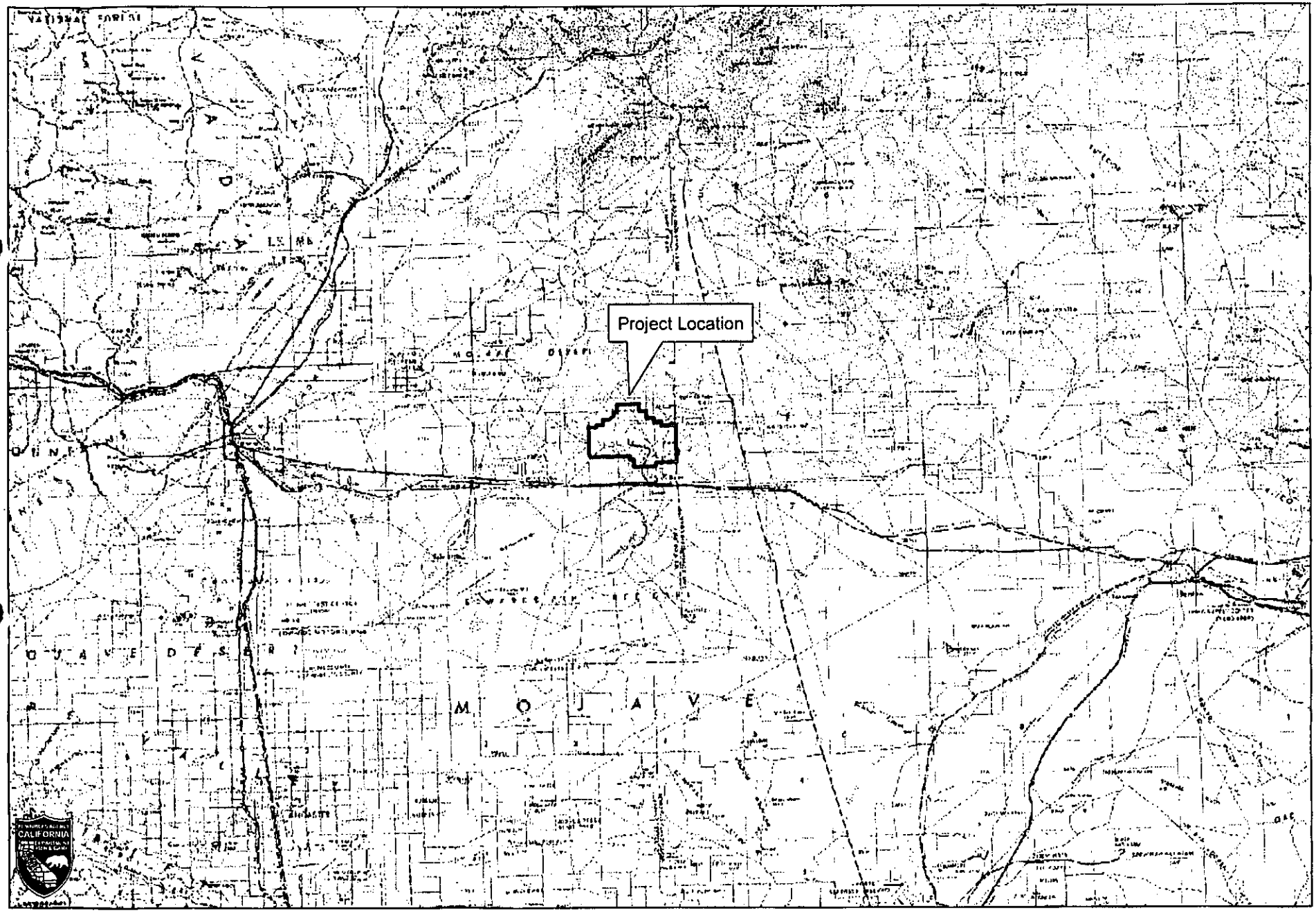
- A total of four Flood Control Catchment (FCC) Basins will be constructed to handle future surface runoff, in consultation with the Kern County Engineering and Survey Services Floodplain Management. The FCCs vary in size, but have a total footprint of 39 acres. The locations of the planned FCCs are shown on Figure 2, and are labeled as FCC12b, FCC12c, FCC12d, and FCC9.

[3] "Project" does not include existing operations, which have been previously approved by the Department.

Figure 1: Project Location

Figure 2: Footprint of Proposed Activities

US Borax - Project Location

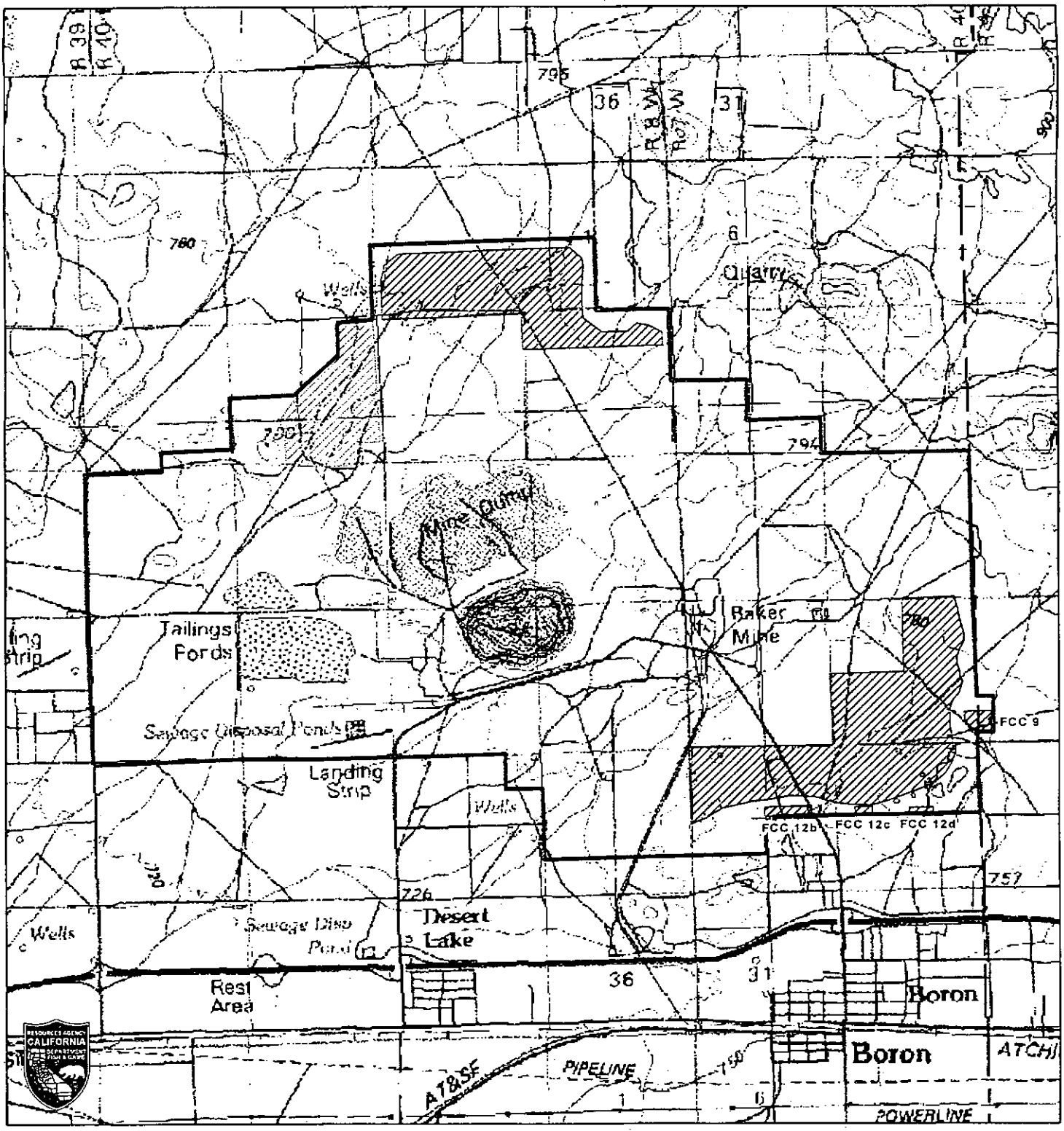


Date: June 14, 2005
Source: USGS topo, WZI Inc.
File name: \W4B0R48MH1V61\..\US_Borax_project_area.mxd

N

0 2.5 5 10 Miles

US Borax
Proposed Expansion Areas



Date: June 14, 2005
Source: USGS topo, WZI Inc.
File name: \W4B0R48MH1V61\...\US_Borax_expansion.mxd

Overburden (1,333 acres) and Gangue (297 acres) Storage. Overburden - T11N, R8W, SBB&M, Section 1 – SW ¼; Section 2 – S ½ ; Section 12 – N ½ of N ½; T11N, R7W, SBB&M, Section 20 - NE ¼ and S ½, Section 29 - N ½; and Section 30 - N ½, N ½ of SW ¼ and portion of NW ¼ of SE ¼. Gangue, T11N, R8W, Section 10 portions of E ½ and SW ¼.
The overburden piles will increase from an estimated 4,629 acres to a range of 6,502 acres to a maximum of 7,141 acres. The materials to be excavated over the remainder of the mine life are estimated to be approximately 1.95 billion (1.95×10^9) tons, or 1.05 billion (1.05×10^9) cubic yards, when excavated and placed in stockpiles. The nominal height above the desert floor of the Northern and Eastern overburden stockpiles will increase to 650 feet in the north and 450 feet in the east.

Construction of Desert Tortoise Exclusion Berms

- A desert tortoise exclusion berm will be constructed around each discrete portion of the expansion area (excluding Flood Control Catchment Basin #9) just prior to utilization (e.g. prior to disturbance). Berm construction will be initiated following completion of preconstruction surveys for Covered Species in the area to be bermed. As such, the entire expansion area will not be surveyed or bermed simultaneously. The berm will be designed to exclude desert tortoise throughout the life of the Project. Some locations will not be surveyed and bermed for nearly 40 years in the future. The desert tortoise exclusion berms will be five feet high, with a slope at the angle of repose. Given the type of soil that comprises nearly all of the overburden material (arkose sand) the angle of repose is about 36 degrees or 1.5:1. As a result, the width of the berm at its base will be approximately 15 feet. At the base of the berm facing away from the proposed expansion area, an 18-inch face will be cut with the edge of a bulldozer or motor grader blade. This cut face will provide an 18-inch high vertical obstacle to desert tortoise, which will prevent them from negotiating the berm and entering the expansion areas. This type of berm has been constructed elsewhere on the U.S. Borax property and has been successful in keeping desert tortoise out of Project areas.

Covered Species: This Permit covers the following species:

Name	**Status**[4]
Gopherus agassizii desert tortoise	State-listed Threatened
Spermophilus mohavensis Mohave ground squirrel	State-listed Threatened

These species and only these species are hereinafter referred to as "Covered Species."

[4] Refers to status under CESA. Under CESA, a species may be on the list of endangered species (E), the list of threatened species (T), or the list of candidate species (C).

Impacts to Covered Species:

Impacts to Covered Species include the following.

- Covered Species could potentially be injured or killed by vehicle or other construction equipment.
- Covered Species could potentially be injured or killed because of collapsed or excavated burrows.
- Predation of desert tortoises may be increased in the work area if common predators are attracted by human activity.
- Uninformed workers could move, collect or vandalize Covered Species at the work site.
- Improper handling of the desert tortoise by humans could spread harmful diseases.
- Permanent loss of 1,798 acres of occupied habitat (1,833 acres of proposed disturbance minus 35 acres of existing roads) could result in mortality of Covered Species. Habitat loss was determined by calculating the amount of undisturbed land to be affected by Project construction within the Project footprint.

Incidental Take Authorization:
The Department authorizes the Permittee, its employees, contractors, and agents to take Covered Species incidentally in carrying out the Project, subject to terms and conditions identified below. This Permit does not authorize any intentional take of Covered Species, except for capture and relocation required by this Permit, and does not authorize take of Covered Species from activities outside the scope of the Project as described above, or take of Covered Species resulting from a permit violation.

Conditions of Approval:
The Department's issuance of this Permit and the Permittee's authorization to take the Covered Species is subject to the Permittee's compliance with and implementation of the following conditions of approval:

General Provisions

1. The Permittee shall comply with all applicable state, federal, and local laws in existence on the effective date of this Permit or adopted thereafter.
2. The Permittee shall fully implement and adhere to the avoidance, mitigation, and compensation measures set forth in this Permit, within the time frames set forth in the Permit and in Attachment 1, the Mitigation Monitoring and Reporting Program ("MMRP"). Kern County's adopted Environmental Impact Report ("EIR") for the U.S. Borax Life of Mine

Project (SCH#2002121007) includes mitigation measures that are related to desert tortoise or Mohave ground squirrel or the species' habitat. All of the measures related to Covered Species and their habitat that are included in the EIR shall be implemented by Permittee, except that compensation for permanent impacts to habitat shall be governed by the conditions of this permit, which requires additional mitigation. .

3. No employees or contractors are allowed to have firearms onsite, except security personnel. This is consistent with current U.S. Borax company policy. Pets, including domestic dogs, are not allowed to accompany any workers onsite.

4. Upon Project completion, all construction refuse, including, but not limited to, broken equipment parts, wrapping material, cords, cables, wire, rope, strapping, twine, buckets, metal or plastic containers, and boxes shall be removed from the site and disposed of properly.

5. Used vehicle and equipment fluids shall be transported to an appropriate off-site disposal location. Fuel and lubricant storage and dispensing locations shall be constructed to fully contain spilled materials until disposal can occur. Hazardous waste, including used motor oil waste and coolant, shall be stored and transferred in a manner consistent with applicable regulations and guidelines. The use of herbicides, pesticides, and chemicals that could be harmful to the Covered Species is not authorized by this Permit. Exceptions may be coordinated with the Department on a case-by-case basis.

6. The Permittee shall provide the Department's Regional Representative (see "Notices" section) with written detailed construction and excavation plans, including engineering drawings, a minimum of 30 days prior to ground disturbing activities. The plans shall include all of the protection and restoration features and techniques that have been made part of the construction contract, consistent with all Project modifications that have been made since the Permit has been under review. The Department has the authority to approve and/or modify the plans and/or add protective conditions.

7. The Permittee shall designate a field contact (Project Representative) who shall be responsible for overseeing compliance with the Conditions of Approval set forth in this Permit and for coordinating with the Department. This Project Representative shall provide the Department's Regional Representative with immediate reports of any change in the Project from that described in Kern County's Draft EIR (SCH#2002121007) and Incidental Take Permit Application (February 2005) for the U.S. Borax Life of Mine Project, or any deviation from the Conditions of Approval of this Permit. This Permit may require amendment if additional take of Covered Species may result from Project modification. The Permittee has designated Mr. David A. Weiss as the Project Representative. The Permittee shall notify the Department immediately of any change of Project Representative.

8. Covered Species shall only be handled by Authorized Biologists who have experience

handling desert tortoise, have experience with Mohave ground squirrel biology and are authorized by the Department. To allow time for such authorization, the Permittee shall submit to the Department the names and credentials of the proposed Authorized Biologist(s) at least 15 days prior to the time that they may need to handle Covered Species. Desert Tortoise and their eggs shall be handled according to the procedures described in the *Guidelines for Handling Desert Tortoise During Construction Projects*, Desert Tortoise Council, Rev. 1999, Edward L. LaRue, Jr., Ed. (Tortoise Handling Guidelines). A copy of these guidelines is attached for reference (Attachment A). The Authorized Biologist(s) shall ensure compliance with the Conditions of Approval provided in this Permit and shall have authority to immediately stop any activity that is not in compliance with this Permit or order any reasonable measures to avoid the take of an individual of a Covered Species.

9. This Permit may be amended without the concurrence of the Permittee if the Department determines that continued implementation of the Project under these Conditions of Approval would jeopardize the continued existence of a Covered Species or that Project changes or changed biological conditions necessitate a Permit amendment to ensure that impacts to the Covered Species are minimized and fully mitigated.

10. The Department may issue the Permittee a written stop work order to suspend any activity covered by this Permit for an initial period of up to 25 days to prevent a violation of this Permit or the illegal take of an endangered, threatened or candidate species. The Permittee shall comply with the stop work order immediately upon receipt thereof. The Department may extend a stop work order under this provision for a period not to exceed 25 additional days, upon written notice to the Permittee. If take avoidance cannot be implemented, the Department shall commence the formal suspension process pursuant to California Code of Regulations, Title 14, Section 783.7 within (5) five working days of issuing a stop work order.

11. The Permittee shall provide Department representatives with reasonable access to the Project site and mitigation lands under its control, and shall otherwise fully cooperate with Department efforts to verify compliance with or the effectiveness of mitigation measures.

12. Neither the Authorized Biologist(s) nor the Department shall be liable for any costs incurred in complying with the management measures, including cease-work orders.

13. Notwithstanding any expiration date on this Permit's take authorization, the Permittee's obligations under this Permit do not end until the Department accepts the Final Mitigation Report as complete.

14. Unless otherwise determined, the Department's Regional Representative shall be:
    Ms. Julie Vance, Staff Environmental Scientist
    1234 East Shaw Avenue
    Fresno, California 93710
    559.243.4014, extension 222.

Avoidance Measures/Minimization of Take

The avoidance of direct take of Covered Species is the first priority for their protection. The second priority is the relocation of Covered Species that are discovered within the work area, prior to ground disturbing activities and also throughout the Project construction period.

15. U.S. Borax has developed and conducts a worker education program that has been approved by the Department and the United States Fish and Wildlife Service (USFWS). Prior to the initiation of new phases of construction activities, U.S. Borax shall conduct the worker education program for all construction personnel. Construction crews, foremen, contractors, subcontractors, and other personnel potentially working on the proposed Project site shall participate in the education program to familiarize themselves with the particular biological restrictions and conditions of the area. Practices and information covered by this program shall include speed limits, firearm prohibition, encounters with Covered Species, staying within designated construction areas, pet prohibition, agency notification, checking under vehicles, trash and litter management, training on any special status species within the proposed Project area, Covered Species and habitat identification, techniques to avoid impacts to Covered Species, consequences of taking a Covered Species, and reporting procedures when encountering Covered Species. The text of the worker education program shall be submitted to the Department at least 10 working days prior to the initiation of construction. Upon completion of the orientation, employees shall sign a form stating that they attended the program and understand all protection measures. These forms shall be maintained by U.S. Borax and shall be made available to the Department upon request. Workers shall receive and be required to visibly display a hardhat sticker or certificate that they have completed the training. Throughout the life of the Project, the worker education program will be repeated annually for permanent employees, and will be routinely administered within one week of arriving on site to any new construction personnel, foremen, contractors, subcontractors, and other personnel potentially working within the Project area.

16. A construction-monitoring notebook shall be maintained by the Authorized Biologist on site throughout the construction period and shall include, at a minimum, a copy of the Incidental Take Permit for the Covered Species (including attachments) and the Mitigation Monitoring and Reporting PIPrograms adopted by the CEQA Lead Agency and by the Department. A list of signatures for all personnel who have successfully completed the worker education program shall be maintained by U.S. Borax. U.S. Borax shall demonstrate compliance with this measure by maintaining a copy of the construction-monitoring notebook, including a list of the names and workers who have completed the required worker education program, available for review upon request by the Department.

17. Disturbance beyond an actual work/construction site shall be avoided by using existing roads to the site. Vehicle and equipment movement shall be restricted to designated routes and work site locations. Overburden/ gangue piles or pond construction (excluding Flood Control Catchment Basin #9) shall not be allowed outside desert tortoise exclusion berms or

desert tortoise exclusion fencing. Cross-country travel is prohibited and the practice shall be discouraged during the worker education program. If unauthorized off-road vehicle/equipment use occurs consistently, continued operations will be in jeopardy until remedied. U.S. Borax may consider other measures, such as posting signs and installing physical barriers as necessary. Construction of the desert tortoise exclusion berm around the perimeters of actively used work sites will assist in containing overburden or gangue material to the site by clearly delineating the boundaries of allowable disturbance and containing potential overspill. It is anticipated that ultimately the entire acreage of the expansion area (1,833 acres) will be utilized, which includes 1,798 acres of habitat considered suitable for the Covered Species. Consequently, there will be little opportunity to reduce the amount of disturbance to habitat.

18. The Permittee shall clearly delineate the boundaries of any work sites within the expansion area with fencing, stakes, or flags and shall similarly delineate the limits of construction sites. All Project-related parking and equipment storage shall be confined to those areas that are identified as places where habitat disturbance will occur or within other already disturbed areas devoid of habitat. Undisturbed areas shall not be used for parking or equipment storage. Project-related vehicle traffic shall be restricted to established roads, construction areas, storage areas, and staging and parking areas. The Authorized Biologist shall provide guidance regarding the above activities.

19. Workers shall inspect for Covered Species under vehicles and equipment every time the vehicles and equipment are moved. If a Covered Species is present, the worker shall wait for the Covered Species to move to a safe location. Alternatively the Authorized Biologist(s) shall be contacted to determine if the animal may be safely moved within the conditions of the Permit.

20. The Permittee shall post speed limits of 25 miles per hour (mph) and will strictly enforce speed limits within construction sites for the entire construction period. However, if the air temperature rises above 104 degrees Fahrenheit prior to 12:00 p.m., an Authorized Biologist shall be allowed to suspend the 25-mph speed limit for that day until the air temperature falls to 104 degrees Fahrenheit or below. The air temperature will be measured 40 centimeters aboveground, in the shade, and protected from wind. For the operating phase of the Project, most vehicles and equipment used to transport overburden/gangue material are equipped with governors that restrict speed to less than 25 mph.

21. The development of all temporary access and work roads associated with construction shall be minimized and constructed without blading where feasible. The Authorized Biologist shall ensure that blading is conducted only where necessary.

22. Prior to any surface disturbance, the Permittee shall construct the desert tortoise exclusion berm around the perimeter of the Project work areas (excluding Flood Control Catchment Basin #9).

23. The desert tortoise exclusion berm and tortoise exclusion fencing shall be located to avoid

tortoise burrows when possible and located so that the burrows are isolated from the active work areas. The Authorized Biologist(s) shall accompany the exclusion fence and exclusion berm construction crew(s) to ensure that desert tortoises are not killed or injured during this activity. The exclusion fence shall be constructed according to USFWS guidelines (Attachment B) and shall consist of wire mesh fencing sized 1-inch by 2-inch. It shall extend a minimum of 18 inches above ground with the lower six inches folded and securely fastened against the ground to prevent tortoise entry. The exclusion fence shall be supported sufficiently to maintain its integrity under all conditions such as wind and heavy rain for the duration of the active construction period. All openings in the exclusion fence lines shall be constructed such that they prohibit tortoise passage or passively directs the tortoise back into suitable natural habitat. The exclusion fence shall be checked at least once weekly and maintained/repaired when necessary by the Permittee. The tortoise exclusion berm will be constructed as described in the Project Description portion of this Permit. The face of the desert tortoise exclusion berm shall be maintained to correct any degradation and sand deposition that could compromise the integrity and function of the berm.

24. No more than 30 days prior to start of berm maintenance or construction activities, the Authorized Biologist(s) shall be present to perform a pre-activity survey for Covered Species. The Authorized Biologist(s) shall remain on site during times of ground disturbing activity if pre-activity surveys indicate the presence of Covered Species within, or adjacent to, the berm maintenance area. These surveys shall cover all access routes and the proposed maintenance area with a minimum 50-foot buffer zone. All potential dens and burrows within the construction ROW shall be flagged to alert biological and work crews to their presence and subsequent disposition. The Authorized Biologist(s) shall examine the berm maintenance area for desert tortoises and Mohave ground squirrels and their burrows. The survey shall provide 100 percent coverage of the maintenance limits. The use of specialized equipment (e.g. fiber optics) may be necessary to thoroughly inspect all burrows. The Authorized Biologist(s), using the methods described in the Tortoise Handling Guidelines shall capture, collect measurement and identification data, permanently mark, and relocate any desert tortoises found within the maintenance area to suitable, undisturbed habitat that has been previously designated by the Department. The Permittee shall follow the provisions in the Department-approved translocation plan for tortoise and Mohave ground squirrels.

25. After the installation of the exclusion fence and/or construction of the tortoise exclusion berm and prior to any ground disturbance, the Authorized Biologist(s) shall examine the Project area for desert tortoises and Mohave ground squirrels and their burrows. The survey shall provide 100 percent coverage of the Project limits. The use of specialized equipment (e.g. fiber optics) may be necessary to thoroughly inspect all burrows. The Authorized Biologist(s), using the methods described in the Tortoise Handling Guidelines shall capture, collect measurement and identification data, permanently mark, and relocate any desert tortoises found within the fenced/bermed Project area to suitable, undisturbed habitat that has been previously designated by the Department. The Permittee shall follow the provisions in the Department-approved translocation plan for tortoise and Mohave ground squirrels. The Authorized Biologist(s) shall also conduct surveys in the area immediately

outside of the exclusion fence for Covered Species and shall conduct periodic inspections of the exclusion fence itself to ensure its integrity. Particular attention shall be given after rainstorms, especially where the fence has been constructed in washes.

26. Any burrows present within the portion of the Project area to be disturbed, and that are suspected or known to be occupied by the Covered Species, will be fully excavated by hand by the Authorized Biologist(s). Any Mohave ground squirrel encountered in the excavated burrows during their active period will be allowed to escape out of harm's way. Mohave ground squirrel encountered during the dormant period will be collected and moved to an artificial burrow. The Authorized Biologist(s) will consult with the Department prior to ground disturbing activities regarding the need and protocol for taking and preserving tissue/fluid samples from live animals.

27. Any desert tortoises found within the portion of the Project area to be disturbed will be moved off of the work site to a point 300-1000 feet from the nearest work site boundary. If a desert tortoise is found above ground, it will be released above ground. Any desert tortoise removed from a burrow shall be relocated to a location pre-approved by the Department, and to an unoccupied burrow of similar size. If no such burrows are available for relocating, an artificial burrow shall be constructed that is approximately the same size, depth, and orientation as the original burrow. Protocols found in the *Guidelines for Handling Desert Tortoises During Construction Projects* (Attachment A) shall be followed for the construction of artificial burrows. The position of all tortoise burrows, tortoises, and relocation sites shall be recorded using GPS technology. All potential or actual desert tortoise burrows present within the work site will be collapsed after establishing that they are not currently occupied by desert tortoise, in order to prevent re-occupancy.

28. Procedures for handling tortoise shall also follow those described by the Desert Tortoise Council in *Guidelines for Handling Desert Tortoises During Construction Projects* (Attachment A). During all handling procedures, tortoises must be treated in a manner to ensure that they do not overheat, show signs of overheating (e.g., gaping, foaming at the mouth, etc.), or are placed in a situation where they cannot maintain surface and core temperatures necessary to their well-being. Desert tortoises must be kept shaded at all times until it is safe to release them. For the purposes of this permit, ambient air temperature must be measured in the shade, protected from wind, at a height of two inches (five centimeters) above the ground surface. No desert tortoise shall be captured, moved, transported, released, or purposefully caused to leave its burrow for whatever reason when the ambient air temperature is above 95 degrees Fahrenheit (35 degrees Celsius). No desert tortoise shall be captured if the ambient air temperature is anticipated to exceed 95 degrees Fahrenheit (35 degrees Celsius) before handling or processing can be completed. If the ambient air temperature exceeds 95 degrees Fahrenheit (35 degrees Celsius) during handling or processing, desert tortoise shall be kept shaded in an environment that does not exceed 95 degrees Fahrenheit (35 degrees Celsius), and not be released until ambient air temperature declines to below 95 degrees Fahrenheit (35 degrees Celsius). In an effort to prevent further spread of Upper Respiratory Tract Disease (URTD), plastic gloves shall be

used whenever biologists handle desert tortoises. After handling each desert tortoise, gloves shall be disposed of and all equipment that came into contact with the tortoise shall be sterilized. Only Authorized Biologists shall handle desert tortoises.

29. In the event that an active desert tortoise nest is detected during pre-construction burrow excavation or during construction activities, procedures outlined in Attachment 3 of the *Guidelines for Handling Desert Tortoises During Construction Projects* (Attachment A) shall be followed. The Department shall be notified immediately upon discovery of an active desert tortoise nest, and the site of egg relocation shall be approved by the Department prior to relocation.

30. The Authorized Biologist shall maintain a record of all desert tortoises handled. This information shall include for each tortoise: a) the locations (narrative and maps) and dates of observation; b) General condition and health, including injuries, state of healing and whether desert tortoise voided their bladders; c) location moved from and location moved to (using GPS technology); d) diagnostic markings (i.e., identification numbers or marked lateral scutes); e) ambient temperature when handled and released; and f) digital photograph of each handled desert tortoise as described in the paragraph below. Desert tortoise moved from within Project areas shall be marked for future identification. An identification number using the acrylic paint/epoxy covering technique shall be placed on the fourth left costal scute as described in *Guidelines for Handling Desert Tortoises During Construction Projects* (Attachment A). Digital photographs of the carapace, plastron and fourth costal scute shall be taken. No notching of scutes will be done.

31. In the event that the Authorized Biologist(s) specifically identifies Mohave ground squirrels utilizing burrows inside of the fenced work areas, the Department shall be consulted regarding the need for a trapping effort to relocate these animals. The scope and timing of any trapping program and the identification of relocation sites shall be determined by the Department. The approach selected may vary depending on ambient air temperature and season, to best protect the squirrels.

32. During Project implementation, all workers shall inform the Authorized Biologist(s) if a Covered Species is seen within or near the Project area. All work in the vicinity of the Covered Species which could injure or kill the animal, shall cease until the Covered Species is moved by the Authorized Biologist(s) or it moves from the construction area of its own accord.

33. All open holes and trenches within habitat shall be inspected at the beginning of the day, middle of the day, and end of day for trapped animals. If Covered Species are trapped, the Authorized Biologist(s) shall be notified immediately. The Covered Species shall be allowed to escape or shall be moved and relocated by the Authorized Biologist(s) before work continues at that location.

34. All personnel entering the Project area shall be required to properly dispose of food, trash or other waste that may attract predators. The Permittee shall provide trash receptacles that are equipped with latching or locking lids and the contents shall be removed and disposed of

properly at regular intervals (at least once per week).

Mitigation Measures/Compensation for Take

35. The Project will cause permanent impacts that will result in the loss of 1,798 acres of Covered Species habitat (1,833 acres of proposed disturbance minus 35 acres of existing roads). To compensate for this loss, the following will occur:

35.1. In 1995, U.S. Borax purchased 2,274 acres of compensation lands located in Section 25, T 32 S, R 45 E, Section 21, T 32 S, R 42 E, and Sections 29 and 31, T 31 S, R 46 E. in a consolidated area of land in San Bernardino County managed for the Covered Species. These lands lie in the Fremont-Kramer Critical Habitat Unit and in the Superior-Cronese Critical Habitat Unit, which are two of four critical desert tortoise habitat units in the Western Mojave Desert. Of the 2,274 acres purchased by U.S. Borax, 1,611 acres were deeded to the Department and 663 acres were deeded to the Bureau of Land Management (BLM). Only 1,942 acres of this purchase have been utilized to satisfy the mitigation requirements of past U.S. Borax Boron Operation expansion projects. Consequently, 332 acres remain available for compensation. The Department shall credit 332 acres of remaining conservation lands previously purchased by U.S. Borax and deeded to the Department as compensation for this project.

35.2. The Permittee shall purchase and deed to the Department 1,466 acres of high quality desert tortoise/Mohave ground squirrel habitat within established conservation areas. The established conservation areas include but are not limited to the desert tortoise critical habitat and recovery units identified above. Acquisition priority will be given to lands adjacent to existing mitigation lands being managed for the benefit of the Covered Species, which does not include lands open to the public for multiple uses. The lands to be purchased must be of higher value for the Covered Species than the habitat that will be lost due to Project implementation, and must be acceptable to both the Department and the United States Fish and Wildlife Service (see Attachment C). Lands to be purchased must also currently support Mohave ground squirrel, and every attempt should be made to purchase a contiguous block of habitat with a minimal edge to volume ratio.

35.3. With guidance from the Department's Regional Representative, the Permittee will fence 1,611 acres of mitigation lands that were acquired by U.S. Borax and deeded to the Department as mitigation for a previous U.S. Borax permit. These lands are located in Section 21, T 32 S, R 42 E, and the southern ½ of Section 29 and Section 31, T 31 S, R 46 E, in San Bernardino County. Alternatively, the Department may identify different Department-owned lands to be fenced by U.S. Borax, depending on fencing priorities. Any alternate lands to be fenced would be comparable in habitat value and size to those identified above. Installation of security fencing around Covered Species habitat

will help prevent human related impacts, such as trespass grazing and OHV use, to the Covered Species present in these areas.

35.4. A Department-approved conservation easement shall be granted to the Department on 2,530 acres of U.S. Borax westerly mine area lands (see table below). U.S. Borax estimates that 36 acres of the 2,530 acres would be excluded as non-habitat due to existing roads and water well locations. Placement of a conservation easement on these lands would provide habitat in perpetuity for both Covered Species, and would help provide a corridor to one of four identified Mohave ground squirrel core areas located just south of the Project area and on Edward's Air Force Base. Within the conservation easement area, U.S. Borax shall retain access rights to existing water wells and mineral rights, however no activities that result in surface disturbance, outside of the existing [fenced] water well pads and existing utility easements will be allowed on the lands protected by the conservation easement. U.S. Borax staff and utility easement holders must access these lands only on existing roads. In addition, existing utility easements (e.g. pipelines, fiber optic cable, etc.) shall be honored. To provide habitat enhancement on these lands, U.S. Borax shall fund or install security fencing to prevent further human disturbance from trespass grazing, dumping, and unauthorized OHV use. U.S. Borax shall also fund or remove litter and other physical evidence of human intrusion into the area, in consultation with the Department and in a way that minimizes any additional surface disturbance.

U.S. Borax Westerly Lands

T11N, R9W	Acres
Section 13	640
Section 23	160
Section 24	620
Section 25	640
Section 36	470
Total	2,530

The 2,530 acres protected by conservation easements and the 1,466 acres to be acquired and protected under Condition 35.2 are referred to as Habitat Management Lands ("HM Lands")

35.5. On an annual basis, the Permittee shall calculate the actual Covered Species habitat that was impacted by each portion of the as-built Project to date. The Permittee shall include this information in the Annual Report due on January 30 of each year, and in the Final Mitigation Report. If at any time the disturbed acreage exceeds the estimated 1,798 acres of permanent impacts, the compensation acreage requirement shall be increased accordingly. The additional HM land acquisition shall be based upon the ratio required in this permit of higher value habitat for each acre of habitat lost over

1,798 acres. Permittee shall also provide an endowment for the additional HM Lands as described in Condition 35.10(e) below at the time additional HM Lands are required. The Permittee shall be responsible for all costs of acquiring and transferring the additional acreage.

35.6. Prior to initiating ground-disturbing Project activities, or no later than 18 months from the effective date of this Permit if Security is provided pursuant to Condition 35.10(g) below, the Permittee shall acquire and permanently preserve 1,466 acres of HM Lands (as required in Condition number 35.2 above) that the Department has determined will provide suitable mitigation for impacts to the Covered Species. A minimum of three months prior to acquisition of these HM Lands, the Permittee shall submit to the Department for approval, a formal Proposed Lands Acquisition Form (see Attachment C) identifying 1,466 acres of land to be purchased as mitigation for Project impacts. The HM Lands are expected to be in the San Bernardino County Fremont-Kramer or Superior-Cronese Conservation Units. The required acreage is based upon the Department's estimate of the acreage required to provide for adequate biological carrying capacity at a replacement location as a means of fully mitigating the Project's impacts on the Covered Species. The Department's approval of the HM Lands acquisition must be obtained prior to acquisition and transfer.

35.7. Prior to initiating ground-disturbing Project activities, or no later than 18 months from the effective date of this Permit if Security is provided pursuant to Condition 35.10(g) below, the Permittee shall transfer a conservation easement to the Department on 2,530 acres of the westerly U.S Borax lands specified in Condition 35.4 above. A minimum of three months prior to transferring the conservation easement, the Permittee shall submit to the Department for approval, a formal Proposed Lands Acquisition Form (see Attachment C) identifying the 2,530 acres of land to be protected in perpetuity as mitigation for Project impacts. The required easement acreage is based upon the Department's estimate of the acreage required to provide for adequate biological carrying capacity at a replacement location as a means of fully mitigating the Project's impacts on the Covered Species. The Department's approval of the draft conservation easement must be obtained prior to execution and delivery of the easement to the Department.

Under the conditions of the Conservation Easement, the property owner, who is currently the Permittee, shall be obligated to implement and/or fund the following activities in perpetuity and in consultation with the Department: 1) routinely monitor and repair security fencing; 2) remove and properly dispose of any trash/debris; 3) maintain the habitat quality on site at current or better conditions; 4) control noxious weeds; 5) manage vegetation with light grazing if needed; 6) prevent OHV use or any other type of surface disturbance; 7) implement fire control requirements in coordination with local fire control agencies; 8) conduct periodic surveys for Covered Species; 9) conduct periodic rapid assessment vegetation surveys; and 10) conduct periodic surveys for noxious weeds. All of the above mentioned management activities shall occur in

consultation with the Department and shall require Department approval prior to implementation. The Department shall be allowed access to the Conservation Easement lands for additional monitoring and evaluation, and supplemental enhancement and management if these activities do not unduly conflict with the Owners uses. These property management requirements shall be recorded in the conservation easement and will be transferred to any new owners of the property covered with the conservation easement.

35.8. Within 12 months of initiating ground disturbing activities and in cooperation with the Department's Regional Representative, the Permittee shall install security fencing around 1,611 acres of habitat acquired as mitigation for a previous U.S. Borax permit (see Condition 35.1, above). These lands are located in Section 25, T 32 S, R 45 E, Section 21, T 32 S, R 42 E, and Sections 29 and 31, T 31 S, R 46 E, in San Bernardino County. This activity must be conducted without the addition of roads. If fence installation is not feasible without road creation, the cost of fencing will be provided to the Department for other enhancement activities.

35.9. Within 1 month of initiating ground disturbing activities, the SMARA revegetation plan for mine overburden/gangue should be submitted to the Department.

35.10. As part of transferring fee title to or conservation easements over HM Lands, the Permittee shall:

a) Required Documents: Provide a recent preliminary title report, initial hazardous materials survey report, and other necessary documents for the HM Lands. All documents conveying an interest in HM Lands and all conditions of title are subject to the approval of the Department, the Fish and Game Commission and, if applicable, the California Department of General Services.

b) Title: Where fee title is being transferred to the Department, provide the Department a deed approved by the Department. As an alternative to the Department holding fee title to the HM Lands, a third party approved by the Department may hold title. If fee title to the HM Lands is held by an approved third-party, a conservation easement shall be recorded in favor of the Department in a form approved by the Department. The endowment fund for these lands shall be paid to and held by the Department.

c) Easement: Where a conservation easement is being transferred to the Department, provide the Department with a conservation easement deed approved by the Department.

d) Enhancement of Land: Provide for the initial protection and enhancement of the 1,466 acres of acquired HM Lands as determined by the Department, once the Permittee identifies the HM Lands. The Department estimates that initial

protection and enhancement will cost approximately $200.00/acre. Alternatively, the Permittee may fund the Department's initial protection and enhancement of the lands by providing to the Department the amount of $293,200 ($200.00/acre).

Provide for the initial protection and enhancement of the 2,530 acres of conservation easement lands, as determined by the Department. The Department estimates that initial protection and enhancement will cost approximately $200.00/acre. Alternatively, the Permittee may; a) fund the Department's initial protection and enhancement of these lands by providing to the Department the amount of $506,000 ($200.00/acre); or b) the Permittee may fund: complete fencing of these lands with security fencing; debris removal; and initial biological surveys (see Condition 33), all in consultation with the Department.

e) HM Lands Endowment Fund: Prior to ground disturbing Project activities, conduct a Property Analysis Record (PAR), or PAR-like analysis (see discussion in Attachment D) to determine the appropriate endowment amount to fund management of the 1,466 acres of acquired HM Lands in perpetuity. Permittee shall provide the required endowment to the Department after the Department reviews and approves the PAR. Alternatively, the Permittee can provide to the Department a permanent capital endowment in the amount of $1,172,800 (1,466 acres x $800.00 per acre). The per acre amount is based on PAR analyses conducted on comparable lands in the West Mojave Desert. Interest from the endowment amount shall be available for reinvestment with the principle and for the long term operation, management, and protection of the HM Lands, including reasonable administrative overhead, biological monitoring, improvements to biological carrying capacity, law enforcement measures, and any other action designed to protect or improve the habitat values of the HM and easement Lands. The endowment principal shall not be drawn upon unless such withdrawal is deemed necessary by the Department to ensure the continued viability of the species on the HM Lands. Monies received by the Department pursuant to this provision shall be deposited in the Fish and Game Mitigation and Protection Endowment Principal Account established in the Special Deposit fund pursuant to Fish and Game Code Section 13014(a)(1). The Department may pool the endowment with other endowments for the operation, management, and protection of HM Lands for local populations of the Covered Species.

An endowment for the 332 acres of mitigation land identified in Condition 35.1 was paid by Permittee at the time that land was transferred to the Department.

Provide to the Department a permanent capital endowment in the amount of $253,000 (2,530 x $100.00 per acre) for the 2,530 acres to be protected by conservation easements. This money will cover the Department's monitoring costs, as well as potential supplemental management on the Conservation Easement lands.

f) Security Fund: The Permittee may proceed with ground-disturbing Project activities before fully performing its duties and obligations as set forth above only if the Permittee secures its performance by ensuring the funding necessary to cover land acquisition costs and initial protection and enhancement of the acquired HM and Easement Lands, as well as funding for monitoring compliance with and effectiveness of the mitigation measures. This assurance shall be an irrevocable letter of credit in the form of Attachment G, a pledged savings account, or another form of security approved by the Department's Office of the General Counsel ("Security"). The Security shall allow the Department to draw on the principal sum if the Department, at its sole discretion, determines that Permitee has failed to comply with the conditions of approval of this permit. The Security shall be approved in advance by the Office of the General Counsel regardless of the form used.

The Security shall be in the amount of $2,265,200, based on the following cost estimates. The land acquisition costs, calculated at $1,466,000 (1,466 acres at $1,000/acre), are based on known cost estimates of mitigation lands for past projects in the Mojave Desert area. The initial protection and enhancement costs are estimated to be $293,200 for the acquired lands, and $506,000 for the lands protected by conservation easements. Even if the Security is provided, the Permittee must complete the required acquisition, protection, and transfer of all HM Lands no later than 18 months after the start of the ground-disturbing activities.

g) Reimbursement: Provide reimbursement to the Department for reasonable expenses incurred during title and documentation review, expenses incurred from other state agency reviews, and overhead related to transfer of HM Lands to the Department to the extent reimbursement is authorized under California law. The Department estimates that this Project shall create an additional cost to the Department of no more than $3,000 for every fee title deed or easement processed.

36. If fee title and conservation easements to the lands described in Condition 35 cannot be transferred for any reason, the Permittee shall consult with the Department and select alternate sites to be protected as required in Condition 35. Purchase of this alternative land shall be subject to all requirements of Conditions of Approval 35 and 37.

37. To the extent authorized under California law, the Permittee shall be responsible for all land acquisition costs, including but not limited to title and document review costs, as well as expenses incurred from other state agency reviews and overhead related to the transfer of HM and Easement lands to the Department, escrow fees, recording fees, title insurance premiums, other escrow-related fees or costs, toxic waste clearance, and other site clean-up measures.

38. The Permittee shall fully fund all expenditures required to implement the minimization and

mitigation measures and to monitor compliance with and effectiveness of those measures, as well as, all other related costs. This is separate, and in addition to, the acquisition of the HM Lands, the initial protection and enhancement of the HM Lands and protection lands, and the long-term management endowment funding required above.

39. Upon completion of sodium borate mining, anticipated to be sometime after year 2040, the majority of the overburden/gangue surface piles will be reclaimed according to the Surface Mining and Reclamation Act (SMARA) reclamation plan. Boric acid ponds and storm water catchment basins will be closed and revegetated according to the requirements of the Lahontan Regional Water Quality Control Board (LRWQCB). Revegetation will be conducted to promote reuse by fauna similar to that currently found in nearby, undisturbed areas and thus will result in some reuse by the Covered Species. The revegetated lands will not be protected in perpetuity with fee title or easement, but they represent a total of 7,783 acres of disturbed soil that will be revegetated with locally native shrub species. The area to be revegetated does not include the mine open pit, plant processing, and impoundment areas. Revegetation efforts will be ongoing throughout the Life of Mine Project; after each final slope edge of the overburden/gangue stockpile is established, revegetation efforts will commence.

Monitoring and Reporting

40. The Permittee shall notify the Department a minimum of (15) fifteen days prior to the start of ground-disturbing activities and shall document compliance with all provisions, conditions, and measures in this Permit.

41. The Permittee shall develop a translocation plan for desert tortoise and Mohave ground squirrels prior to the start of the surveys for covered species required by Conditions 24 and 25, above. The translocation plan shall be submitted to the Department for review and approval prior to the start of ground disturbing activities.

42. All observations of Covered Species and/or their sign in the active work area shall be immediately conveyed to the Authorized Biologist: This information shall be included in the next scheduled compliance report to the Department.

43. No more than 30 days prior to ground disturbing activities at each new work site, the Authorized Biologist(s) shall be present to perform a pre-construction survey for Covered Species and shall remain on site during times of construction activity until temporary exclusion fencing and/or desert tortoise exclusion berms to preclude desert tortoises from entering the work area have been installed/constructed. These surveys shall cover the existing access routes, and the proposed construction right-of-way with a 50-foot buffer zone. All potential dens and burrows within the construction ROW shall be flagged to alert biological and work crews to their presence and subsequent disposition. A report documenting the results of the pre-construction surveys shall be submitted to the Department within 30 days after the surveys.

44. A report documenting the results of the berm maintenance pre-activity surveys shall be

submitted to the Department within 30 days after performing them.

45. No later than 90 days after completion of the preconstruction survey and construction of the desert tortoise exclusion berm in each discrete portion of the Project area, the U.S. Borax Designated Representative and the Authorized Biologist shall submit a written report to the Department ("90-day Report"). The 90-day Report shall document the effectiveness and practicality of the preconstruction avoidance and compensation measures, the number of Covered Species excavated from burrows, the number of Covered Species moved off-site, and the number of Covered Species killed or injured and the specific information for each. The report shall make recommendations for modifications in accordance with any adaptive management policy that may be outlined in any future USFWS Implementation Agreement created and approved for the Project. The 90-day Report shall include estimates of new and cumulative surface disturbance, including the actual acreage of habitat converted to a desert tortoise exclusion berm and the actual acreage to be disturbed in that specific portion of the Project area.

46. The effectiveness of the desert tortoise exclusion berms will be continually monitored by U.S. Borax personnel. A summary of any berm maintenance activities, as well as the results of the required Pre-activity surveys shall be included in each annual report.

47. The Authorized Biologist(s) shall conduct routine (weekly, at a minimum) compliance inspections during each portion of initial mine expansion. The Authorized Biologist(s) shall check for compliance with all of the mitigation avoidance measures. All exclusion zones shall be checked to ensure that the signs, stakes, and fencing are still intact and that human activities have been restricted in these protective zones. Results of these routine inspections are to be included in the Annual Report. Any non-compliance with the mitigation and monitoring requirements specified in this permit are to be conveyed in writing to the Department within four calendar days of detection.

48. All observations of Covered Species will be submitted to the Department's California Natural Diversity Database (CNDDB) and copies of the submitted forms will be included with each 90-day or annual report, whichever is submitted first relative to the observation.

49. Upon locating a dead Covered Species, initial notification to the Department shall be made immediately by contacting the Department's Regional Representative by phone [559.243.4014, extension 222], email [jvance@dfg.ca.gov] or Fax [559.243.4020] and by providing information on the location, species, number of animals killed, and the Incidental Take Permit Number. Following the initial notification, a written report is to be submitted to both the Department and the USFWS within two calendar days. The report shall detail the date, time, and location of the observation, and if possible provide a photograph, cause of death (if known), and any other pertinent information. The Authorized Biologist shall collect the carcass, place it in plastic and keep it on ice or in a freezer until a Department representative can either collect the specimen or issue alternative instructions.

50. Upon locating an injured Covered Species, initial notification to the Department shall be made within 48 hours by calling the Regional office at (559) 243-4005 and providing information on the location, species, number of animals injured, and the Incidental Take Permit Number. If a Covered Species is injured as a result of Project-related activities or on the Project site, it will be immediately taken by the Authorized Biologist or qualified person to a veterinarian approved in advance by the Department. Any veterinarian bills for such injured animals will be paid by the Permittee. The Permittee shall identify the selected veterinarian prior to the start of ground disturbing activities. A rehabilitated Covered Species will be released in a location to be determined by the Department. Following the initial notification, the Permittee shall submit a written report to both the Department and the USFWS within two calendar days. The written report shall detail the date, time, and location of the observation, and if possible provide a photograph, cause of injury (if known), any other pertinent information, and the name of the facility to which the animal was taken.

51. The Project Representative shall verify that the protective measures of this Permit are implemented. The Project Representative shall immediately notify the Department in writing if it determines that any of the avoidance, compensation, or mitigation measures were not implemented or if the Permittee anticipates for any reason that measures may not be implemented within the time period indicated. The Project Representative shall immediately notify the Department if any of the avoidance, compensation, and mitigation measures are not providing the level of protection that is appropriate for the impacts occurring, and recommendations, if any, for alternative mitigation measures.

52. The Project Representative shall maintain a record of all Covered Species encountered during Project activities and detail the locations of each occurrence (using GPS technology), the general condition and health of each individual, diagnostic markings, and any actions undertaken. All oversight activities, verifications, inspections, surveys, monitoring, and records required by this Permit shall be reported in writing to the Department by the Project Representative. Reporting of these activities shall be submitted annually and shall be received by the Department by January 30 of each year.

53. Initial biological surveys for both Covered Species, the methodology of which is to be approved in advance by the Department, shall be conducted on the U.S. Borax westerly lands to be protected by conservation easements. These surveys shall be funded by U.S. Borax and conducted during the first survey season following initiation of construction. Survey results shall be provided to the Department within 90 days of completion of surveys. The written survey report should also include any management recommendations for the benefit of the Covered Species, including vegetation management, non-native plant management, grazing recommendations, etc. All positive observations of Covered Species are to be turned in to the CNDDB by the time that the written survey report is submitted to the Department, and copies of the CNDDB submittal forms should be appended to the written survey report.

54. Follow-up biological surveys shall be conducted by qualified wildlife biologists and funded by U.S. Borax. Proposed biological surveys to be conducted on the conservation easement

lands shall be approved by the Department in advance. Follow-up surveys shall be conducted annually, until such time as the Department determines they may be conducted less often. Any change or reduction in frequency of follow-up shall be documented in writing by the Department.

55. The status of the security fencing installed around the U.S. Borax westerly lands should be assessed regularly by U.S. Borax. The frequency of these assessments will be proposed by Permittee and approved by the Department. Breaches in the fencing that allow trespass grazing or OHV access shall be immediately repaired at Permittee's expense.

56. Any other management needs identified by U.S. Borax for the benefit of the Covered Species on the U.S. Borax westerly lands shall be approved by the Department in advance of implementation. Management activities approved by the Department will be carried out and/or funded by U.S. Borax. The Department also has the option of implementing supplemental management activities by utilizing the endowment account secured for management of those lands.

57. Information included in both the 90-day and annual reports shall be compiled and included in the Final Mitigation Report discussed below.

58. The Permittee shall:

    a) Comply with all conditions of the MMRP (Attachment E). The Permittee shall immediately notify the Department in writing, if it determines that any of the mitigation measures were not implemented during the period indicated in the MMRP.

    b) Provide a Final Mitigation Report to the Department within 90 days following the completion of Project construction. The Final Mitigation Report shall be the responsibility of the Project Representative and shall include, at a minimum: 1) a copy of the attached MMRP with notes showing when each of the mitigation measures was implemented; 2) all available information about Project-related incidental take of species named in the Permit; 3) information about other Project impacts on the species named in the Permit; 4) construction dates; 5) an assessment of the effectiveness of each mitigation measure in minimizing and compensating for Project impacts; 6) recommendations on how mitigation measures might be changed to more effectively minimize and mitigate the impacts of future projects on the species; and 7) a compilation of the annual reports and any other pertinent information. The Permittee's monitoring and reporting obligations under this MMRP shall end only after the Department accepts the Final Mitigation Report as complete.

Compliance with Other Laws:
This Permit contains the Department's requirements for the Project pursuant to CESA. This

permit does not necessarily create an entitlement to proceed with the Project. The Permittee is responsible for complying with all other applicable state, federal, and local laws.

Notices:
Written notices, reports and other communications relating to this Permit shall be delivered to the Department by first class mail at the following addresses, or at addresses the Department may subsequently provide the Permittee. Notices, reports, and other communications should reference the Project name, Permittee, and Permit Number (2081-2005-015-04) in a cover letter and on any other associated documents.

Original cover with attachment(s) to:
Mr. W. E. Loudermilk, Regional Manager
San Joaquin Valley - Southern Sierra Region
1234 East Shaw Avenue
Fresno, California 93710
Attn: Ms. Julie Vance

Copy of cover without attachment(s) to:
General Counsel
Department of Fish and Game
1416 Ninth Street, 12th Floor
Sacramento, California 95814

And:

Habitat Conservation Planning Branch
1416 Ninth Street, Suite 1260
Sacramento, California 95814

Unless Permittee is notified otherwise, the Department's Regional Representative for purposes of addressing issues that arise during implementation of permit conditions is:

Ms. Julie Vance, Staff Environmental Scientist
1234 East Shaw Avenue, Fresno, California 93710
Phone: 559.243.4014, extension 222
Email: jvance@dfg.ca.gov
Fax: (559) 243-4020

Compliance with the California Environmental Quality Act:
The Department's issuance of the Permit is subject to the California Environmental Quality Act, Public Resources Code, section 21000 et seq. ("CEQA"). The Department is a responsible agency under CEQA with respect to the Permit because of prior environmental review of the Project by the lead agency, Kern County (See generally Pub. Resources Code, §§ 21067, 21069.) The lead agency's prior environmental review of the Project is set forth in the U.S.

Borax Life of Mine Project Environmental Impact Report (EIR, SCH#2002121007), dated September 24, 2003. At the time that the lead agency adopted the EIR and approved the Project it also adopted all mitigation measures described in the EIR as conditions of project approval.

In fulfilling its obligations as a responsible agency, the Department's obligations under CEQA are more limited than the lead agency. (CEQA Guidelines, § 15096, subd. (g)(1).)[5] The Department, in particular, is responsible for considering only the effects of those activities involved in the Project which it is required by law to carry out or approve and mitigating or avoiding only the direct or indirect environmental effects of those parts of the Project which it decides to carry out, finance, or approve. (Pub. Resources Code, § 21002.1, subd. (d); CEQA Guidelines, § 15096, subds. (f), (g)(1).) Accordingly, because the Department's exercise of discretion is limited to issuance of the Permit, the Department is responsible for considering only the environmental effects that fall within its permitting authority under CESA.

This Permit, along with the Department's "CEQA Findings" for the Permit and Project, which are available as a separate document, document the Department's consideration of the lead agency's EIR for the Project and the environmental effects related to issuance of the Permit. (CEQA Guidelines, § 15096, subd. (f).) The Department finds that issuance of the Permit will not result in any previously undisclosed potentially significant effects on the environment or a substantial increase in the severity of any potentially significant environmental effects previously disclosed by the lead agency. Furthermore, to the extent the potential for such effects exists, the Department finds adherence to and implementation of the conditions of project approval adopted by the lead agency, as well as adherence to and implementation of the conditions of approval imposed by the Department through the issuance of the Permit, will avoid or reduce to below a level of significance any such potential effects. The Department finds that issuance of the Permit will not result in any significant, adverse impacts on the environment.

CESA Findings:
With respect to CESA, the Department finds that, in issuing the Permit, all of the following conditions have been met:

(1) Take of Covered Species as defined in the Permit shall be incidental to the otherwise lawful activities covered under the Permit;

(2) The impacts of the take shall be minimized and fully mitigated through the implementation of measures required by this Permit and described in the Mitigation Monitoring and Reporting Program (MMRP), Attachment E. Measures include, but are not limited to: 1) compliance reports; 2) land compensation for species where habitat is impacted; and 3) an education program for all persons

[5] The "CEQA Guidelines" are found in Title 14 of the California Code of Regulations, commencing with section 15000.

working on-site.

(3) The take avoidance and mitigation measures required pursuant to the conditions of this Permit and its attachments are roughly proportional in extent to the impact of Permittee's take.

(4) The measures required by this Permit maintain Permittee's objectives to the greatest extent possible;

(5) All required measures are capable of successful implementation;

(6) The Permit is consistent with any regulations adopted pursuant to §2112 and §2114 of the Fish and Game Code;

(7) Permittee has ensured adequate funding to implement the measures required by the Permit as well as for monitoring compliance with, and the effectiveness of, those measures for the Project; and

(8) Issuance of the Permit shall not jeopardize the continued existence of the Covered Species based on the best scientific and other information that is reasonably available, and includes consideration of the species' capability to survive and reproduce, and any adverse impacts of the taking on those abilities in light of; (a) known population trends; (b) known threats to the species; and (c) reasonably foreseeable impacts on the species from other related projects and activities.

Attachments:

Attachment A	Guidelines for Handling Desert Tortoises During Construction Projects
Attachment B	USFWS Desert Tortoise Exclusion Fencing Specifications
Attachment C	Habitat Management Land Acquisition Process Overview, Checklist, and Proposed Lands Acquisition Form (PLAF)
Attachment D	Property Analysis Record (PAR) Information
Attachment E	Mitigation Monitoring and Reporting Program
Attachment F	Mitigation Payment Transmittal Form
Attachment G	Letter of Credit Form

ISSUED BY THE CALIFORNIA DEPARTMENT OF FISH AND GAME

On 11/4/05, 2005

W. E. Loudermilk, Regional Manager
San Joaquin Valley-Southern Sierra Region

Approved as to form:

Steve A. Adams
Acting Deputy General Counsel

ACKNOWLEDGMENT

The undersigned: 1) warrants that he or she is acting as a duly authorized representative of the Permittee, 2) acknowledges receipt of this Permit, and 3) agrees on behalf of the Permittee to comply with all conditions of approval of the Permit. The undersigned also acknowledges that adequate funding will be made available to implement the measures required by this Permit.

By: _____ Date: 11.15.05
Name: Chris J. Robison
Title: Chief Operations Officer
U.S. Borax, Inc.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Washington, D.C. 20240

In Reply Refer To:
FWS/AES/DCHRS/024358

MAR 0 6 2006

Memorandum

To: Regional Directors, Region 1, 2, 3, 4, 5, 6, and 7
Manager, California/Nevada Operations Office

From: Director /s/ Dale Hall

Subject: Recovery Units and Jeopardy Determinations under Section 7 of the Endangered Species Act

The purpose of this memorandum is to clarify the role of recovery units in making jeopardy determinations as part of interagency consultations conducted pursuant to Section 7(a)(2) of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*). This subject is also addressed on pages 4-36 through 4-38 of the March 1998 edition of the Endangered Species Consultation Handbook.

"Recovery units" may be identified as part of the Recovery Planning process for listed species. This approach can be useful in addressing the conservation needs of a species when different populations face different threats or where the actions needed to address the threats may differ across the range of the species. Application of this approach is at the discretion of the Regional Director charged with lead responsibility for the recovery of the species.

It is important to recognize that the establishment of "recovery units" does not create a new listed entity. Jeopardy analyses, conducted as part of a section 7 consultation, must always consider the impacts of a proposed action on the survival and recovery of the species (as "species" is defined by the Endangered Species Act) that is listed. While a proposed Federal action may have significant adverse consequences to one or more "recovery units," this would only result in a jeopardy determination if these adverse consequences reduce appreciably the likelihood of both the survival and recovery of the listed entity. The penultimate paragraph on page 4-36 of the Consultation Handbook provides the following elaboration related to this matter:

> When an action appreciably impairs or precludes the capacity of a recovery unit from providing both the survival and recovery function assigned to it, that action may represent jeopardy to the species. When using this type of analysis, include in the biological opinion a description

> of how the action affects not only the recovery unit's capability, but the relationship of the recovery unit to the both the survival and recovery of the listed species as a whole.

As a point of clarification, the previous practice granting exceptions to make jeopardy determinations for certain populations by way of a memorandum is discontinued. Any future jeopardy determinations for listed species, including species for which an exception memorandum was previously issued, must comport with the guidance described in this memorandum.

In summary, jeopardy determinations must assess whether the proposed action is likely to reduce appreciably both the survival and recovery of the listed species in the wild—as opposed to merely documenting significant adverse effects to one or more "recovery units." Please direct any questions regarding this memorandum to Rick Sayers, Chief, Division of Consultation, Habitat Conservation Planning, Recovery, and State Grants.

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

APPLICATION FOR CERTIFICATION
FOR THE *IVANPAH SOLAR ELECTRIC GENERATING SYSTEM*

DOCKET NO. 07-AFC-5
PROOF OF SERVICE
(Revised 11/23/09)

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DECLARATION OF SERVICE

I Hilarie Anderson, declare that on January 5, 2010, I served and filed copies of the attached, Exhibit 305. The original document, filed with the Docket Unit, is accompanied by a copy of the most recent Proof of Service list, located on the web page for this project at:
[www.energy.ca.gov/sitingcases/ivanpah].

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

(***Check all that Apply***)

FOR SERVICE TO ALL OTHER PARTIES:

___✔___ sent electronically to all email addresses on the Proof of Service list;

___✔___ by personal delivery or by depositing in the United States mail at Sacramento, California with first-class postage thereon fully prepaid and addressed as provided on the Proof of Service list above to those addresses **NOT** marked "email preferred."

AND

FOR FILING WITH THE ENERGY COMMISSION:

___✔___ sending an original paper copy and one electronic copy, mailed and emailed respectively, to the address below (***preferred method***);

OR

_____ depositing in the mail an original and 12 paper copies, as follows:

CALIFORNIA ENERGY COMMISSION
Attn: Docket No. 07-AFC-5
1516 Ninth Street, MS-4
Sacramento, CA 95814-5512
docket@energy.state.ca.us

I declare under penalty of perjury that the foregoing is true and correct.

Original Signature in Dockets
Hilarie Anderson

*indicates change