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**Riverside Energy Resource Center Units 3&4
06-SPPE-1**

Data Request 23

BACKGROUND

The proposed RERC 3&4 project would place a dispatch and scheduling building adjacent to an existing burrowing owl (i.e., a California Species of Concern) mitigation area, which was constructed as part of the RERC 1&2 project. It is understood that this building has been designed in coordination with California Department of Fish and Game (CDFG) to prevent impacts to burrowing owl. The proposed project would require permanent closure of one artificial burrow and temporary closure of several artificial burrows during construction activities. However, it is unclear exactly which of the six existing artificial burrows would be temporarily or permanently closed.

DATA REQUEST

23. a. Please provide a map showing the location of the dispatch and scheduling building in relation to the existing artificial burrows; and
- b. indicate on the map which of the existing burrows would be temporarily or permanently closed.

RESPONSE

23. a. According to the original project design, one existing artificial burrow within the burrowing owl mitigation area was to be closed permanently following construction of the proposed backup dispatch and scheduling building. Since receiving the CEC's data requests, the applicant has decided to relocate the backup scheduling and dispatch building to another site where it will not impact the burrowing owl mitigation area. Accordingly, the artificial burrow that would have been impacted by construction of the building and fill soils behind the building will be unaffected, and will remain open.
- b. Through consultation, the California Department of Fish and Game (CDFG) recommended that a buffer be positioned 30 feet from the mitigation area in order to 1) keep construction activities from significantly impacting the behaviors of owls that could potentially inhabit the mitigation area, and 2) provide enough space for construction to occur unimpeded. The 30-ft. buffer would be established using an orange construction barrier fence. The primary construction activity in the vicinity of the 30-ft. buffers would be equipment storage. Additional activities would include grading, trenching, and construction of a water lab and associated storage rack – each of which would occur over short periods (i.e., 1-2 weeks for each activity). Other activities that are more significant in terms of noise, movement, and duration would occur at a greater distance from the 30-ft. buffer. There is one area

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where the 30-ft. buffer cannot be maintained: the location of the water lab and associated storage rack. This small building and metal rack will be placed on a small concrete pad at a distance of approximately 28 feet from the mitigation area. The applicant will maintain a 28-ft. buffer during the construction of the pad, lab, and rack – a feature that is located roughly between two artificial burrows within the mitigation area. Burrows 2 and 3 are shown in the attached Project Construction Buffer Area drawing (Biological Resources Attachment 1). The CDFG concurred that maintaining the buffer at 28 feet at this location would be acceptable. The CDFG further recommended that if the 30-ft. buffer is maintained during the construction phase of the project, the artificial burrows within the mitigation area would not need to be temporarily closed, nor would additional burrows need to be constructed because of their closure.

To further mitigate construction activities near the 30-ft. buffer, the CDFG recommended that a biological monitor be present during construction of the pad, lab, and rack at the storage shed, as well as any trenching and grading activities located within 30 feet of the 30-ft. buffer. A qualified biological monitor will ensure that burrowing owls inhabiting the burrowing owl mitigation area will not be impacted by the construction activities. Should the biological monitor determine that the construction activities pose a threat to burrowing owls inhabiting the mitigation area, the monitor should retain the power to temporarily halt or divert construction activities that impact the use of the mitigation area by burrowing owls inhabiting it, until it has been determined that the potential for impact has passed.

CDFG Statement of Concurrence: The Department concurs that the 30-ft. buffer should suffice since the site is not used by owls for breeding/nesting. If owls are found nesting, then additional avoidance and minimization measures may be necessary. The Department concurs that having the biological monitor onsite will help ensure owls are not impacted. A copy of the CDFG Statement of Concurrence is attached (Biological Resources Attachment 2).

**Riverside Energy Resource Center Units 3&4
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Data Request 24 & 25

BACKGROUND

The applicant proposes to construct two new artificial burrows for each existing burrow temporarily or permanently closed (section 6.3.1.2.1, pg. 6.3-2). Additional detail regarding the location and design of the burrows was not provided in the application. Further, these details should be coordinated with CDFG, who provides regulatory oversight on mitigation for burrowing owl and worked with the applicant and the Energy Commission to design and implement the mitigation area for the RERC Units 1&2 project.

DATA REQUESTS

24. Please provide a map that illustrates the preliminary proposed locations of the new artificial burrows.
25. a. Please provide a description of the design for the artificial burrows. It is assumed that they would be very similar to the existing artificial burrows; and
 - b. submit the proposed location and design information to staff and CDFG for review and provide a record of correspondence with CDFG to the Energy Commission.

RESPONSE

24. The CDFG recommend that artificial burrows within the mitigation area will not need to be temporarily closed, nor would additional burrows need to be constructed because of their closure. Refer to Data Response 23.

CDFG Statement of Concurrence: To clarify, the creation of artificial burrows will not be necessary since no burrows will need to be closed. If it is determined at some point that burrows need to be closed, then additional burrows will need to be created to mitigate the loss of the burrow. See the copy of CDFG Statement of Concurrence in Data Response 23 (Biological Resources Attachment 2).

25. The CDFG has determined that no burrows will be subject to closure; however, should unforeseen circumstances arise that require the closure of burrows, the applicant would construct artificial burrows at a ratio of 2:1 in the existing on-site burrowing owl mitigation area. The additional artificial burrows would be installed on the north end of the mitigation area between burrows 4 and 6. Refer to Project Construction Buffer Area in Data Response 23 (Biological Resources Attachment 1). Burrow construction will follow the previous design, as shown in the attached Burrowing Owl Artificial Burrow Design (Biological Resources Attachment 3), with the following improvement:

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the burrow length will be increased from 6 feet to 9 feet, with a 90 degree horizontal turn at approximately 6 feet following Collins and Landry (1977), Belthoff (2003), and Alexander et al. (2005) in order to prevent sunlight from reaching the nest chamber.

CDFG Statement of Concurrence: The Department concurs with the proposed burrow design. See the copy of CDFG Statement of Concurrence in Data Response 23 (Biological Resources Attachment 2).

REFERENCES:

Alexander, A. K., Sackschewsky, M. R. and Duberstein, C. A., 2005. Use of artificial burrows by burrowing owls (*Athene cunicularia*) at the HAMMER Facility on the U.S. Department of Energy Hanford Site. Technical report prepared for the U.S. Department of Energy.

Belthoff, James R. 2003. Monitoring burrowing owls in artificial burrows. Technical Bulletin No. 03-9. Idaho Bureau of Land Management, Boise, Idaho.

Collins, Charles T. and Landry, Ross E., 1977. Artificial nest burrows for burrowing owls. *North American Bird Bander* 2(4):151-154.

**Riverside Energy Resource Center Units 3&4
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Data Request 26 & 27

BACKGROUND

The County of Riverside has adopted a Multiple Species Habitat Conservation Plan (MSHCP) that includes the proposed RERC 3&4 site within the boundaries of The Cities of Norco/Riverside Area Plan, Sub Unit Santa Ana River South. A portion of the mitigation for impacts to burrowing owl from the RERC 1&2 project required the City of Riverside to pay into the MSHCP fund to purchase credits for permanent habitat disturbance. Per the MSHCP habitat assessment conducted by the applicant for the RERC 3&4 project, as illustrated in Figure 3 (pg. 6.3-19), suitable habitat for burrowing owl exists within the proposed project area outside of the burrowing owl mitigation area. The suitable habitat within the gravel lot in the northern portion of the project site would be used as a laydown area and would therefore be temporarily impacted by construction of the proposed project. Also, it appears that the expanded switchyard would be constructed within burrowing owl habitat, resulting in permanent disturbance.

DATA REQUEST

26. Please clarify whether there would be permanent disturbance to burrowing owl habitat from construction of the proposed project.
27. Please determine whether the purchase of mitigation credits is required per the Western Riverside County MSHCP and provide the associated records of correspondence with applicable agency officials.

RESPONSE

26. The biological constraints analysis prepared in support of the RERC Units 3 & 4 SPPE application included an assessment of whether burrowing owl habitat occurred within the project area and adjacent lands within 150 meters. Burrowing owl habitat was identified within the burrowing owl mitigation area, within the RERC site (including the gravel lot in the northern portion of the project area), as well as on adjacent lands within 150 meters of the project area. The assessment was meant to determine if and where focused and pre-construction surveys for burrowing owl would be necessary, per Western Riverside County Multiple Species Conservation Plan (MSHCP) requirements. Focused breeding season surveys for burrowing owl are currently underway, and will be completed by the end of June 2008. A pre-construction survey for burrowing owl will be conducted within 30 days of the initiation of construction activities.

Though portions of the project area and adjacent lands were identified as supporting appropriate habitat for burrowing owl, the only portion of the

project area that is known to be *occupied* by burrowing owls (per CDFG 1995 definition) is the burrowing owl mitigation area. This area will remain a conservation easement in perpetuity; therefore, no occupied burrowing owl habitat will be permanently disturbed. Should it be determined during the breeding season focused surveys or pre-construction survey that other portions of the site are occupied by burrowing owls, and these portions of the site are within the footprint of the project that will be permanently disturbed, then the applicant will consult with the CDFG to determine the need for appropriate mitigation, such as the installation of additional burrows within the on-site mitigation area or dedication/acquisition of additional habitat, per MSHCP requirements. If portions of the project area outside of the burrowing owl mitigation area are determined to be occupied by burrowing owls, then payment of the MSHCP fees will mitigate the loss of this potential burrowing owl habitat, per the MSHCP rules.

CDFG Statement of Concurrence: The Department concurs with this measure. See the copy of CDFG Statement of Concurrence in Data Response 23 (Biological Resources Attachment 2).

27. The MSHCP can require fees to the Regional Conservation Authority (RCA), the agency that oversees implementation of the MSHCP. RPU paid fees to the RCA as part of the RERC 1&2 project. A record of this payment is presented in the attached letter from the Western Riverside County Regional Conservation Authority (Biological Resources Attachment 4). The applicant determined, through consultation with the RCA, that payment does not need to be duplicated for the same project area; i.e., since payment for the RERC site has already been made, the RCA cannot assess additional MSHCP fees for the same project area. A copy of the correspondence with the RCA regarding this issue is attached (Biological Resources Attachment 5).

**Riverside Energy Resource Center Units 3&4
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Data Request 28 & 29

BACKGROUND

The proposed project is adjacent to the existing burrowing owl mitigation area where burrowing owls are considered present. Additionally, the proposed project would be located approximately 325 feet south of southern cottonwood willow riparian forest within the Santa Ana River riparian corridor. This habitat supports foraging and nesting populations of special-status birds, including least Bell's vireo, southwest willow flycatcher, and western yellow-billed cuckoo. Although the applicant stated that indirect impacts to burrowing owls and nesting birds may occur (section 6.3.6.5, pgs. 6.3-38, 39), the application did not address the potential for noise or lighting impacts to special-status wildlife. The following information is needed in order to determine potential impacts to special-status wildlife from noise and light associated with proposed project construction and operation activities.

DATA REQUESTS

28. a. Please provide an analysis of background noise levels and anticipated construction and operational noise levels in relation to potential effects to special-status wildlife in the project burrowing owl mitigation area and the Santa Ana River riparian corridor; and
 - b. analyze whether there is a particular time of year when the project's construction and operations noise could pose a threat to nearby sensitive biological resources.
29. Please provide an analysis of what effects any additional lighting during the new facility during the new facility construction or operational phases may have on the nearby sensitive habitat associated with the Santa Ana River riparian corridor.

RESPONSE

28. a. During the 2004 assessment for Units 1&2, numerous noise measurement locations were established at various points adjacent to the RERC site. One of these measurement locations – ST-5 – was positioned on the Santa Ana River Bicycle Trail located between the RERC site and the riparian corridor associated with the Santa Ana River, approximately 100 feet south of the riparian corridor. The existing ambient noise level at this location was measured at 46 decibels (dB(A)) prior to the construction of Units 1&2. Construction noise associated with construction of Units 1&2 from this location was estimated at 50 decibels, with a cumulative noise level of 51 decibels. Construction noise levels associated with construction of Units 3&4 are not expected to exceed estimates for Units 1&2. Considering the fact that

the location of ST-5 is approximately 100 feet closer to the RERC site than is the riparian corridor, cumulative noise levels at the edge of the riparian corridor are expected to be lower, probably less than 50 decibels. Additionally, operational noise levels are expected to be considerably less than the construction noise levels.

Biologists monitored a 500-ft. buffer around the riparian corridor during the first year of construction of Units 1&2, and detected very little noise from the RERC site when standing on the Santa Ana River Bicycle Trail. The portion of the 500-ft. riparian setback within the RERC project site was located down slope and south of a large earthen berm that was left in place following use of the area as a borrow pit. The floor of the plant site at this location was approximately 50 feet lower in elevation than the top of the berm. Accordingly, sights and sounds produced by the construction activities that occurred within the RERC plant site were almost completely obscured by the earthen berm, thereby keeping potential impacts to nesting birds within the riparian area to a minimum (Tuma and Cummins, 2007).

b. Previous studies have shown that animal behavior can change as a result of exposure to noise. The noise levels that can result in behavior changes start at a range from 60 to 85 decibels (Bowles 1995), depending on the study and the species. Based on the estimated construction noise levels (51 decibels), noise is not expected to result in a significant impact to nesting special-status bird species inhabiting the riparian corridor, including least Bell's vireo, as the cumulative total is well below the levels research has shown to affect wildlife, and just slightly above ambient levels. Thus, neither construction nor expected operation noise would have a significant impact on special-status avian species nesting within the riparian corridor.

Within the RERC site, estimated noise levels for construction equipment used for the construction of Units 3&4 between February and July 2009 range from 57 to 88 decibels at 50 feet. These noise levels could have an impact on wildlife, particularly avian species that may nest within the RERC site, including the burrowing owl mitigation area. To mitigate this potential impact, a qualified biologist will monitor the RERC site – including the burrowing owl mitigation area – on a weekly basis during the early portion of the nesting season (March 1 through April 15) and every two weeks during the latter portion of the nesting season (April 16 through June 30) to determine the status of nesting avian species at the site. Should an active nest be detected, the nest will be monitored daily whenever construction activities are within 50 ft. of the nest until it has been determined by the biologist that the young have fledged and successfully dispersed from the area. During this monitoring period, the biologist will retain the authority to divert construction equipment exceeding 60 dB(A) to areas outside of a 50-ft. buffer of the active nest if it is the determination of the biologist that the construction noise or activities will cause the nest to fail. A copy of the Analysis of Estimated Overall Construction Noise Level is attached (Biological Resources Attachment 6).

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CDFG Statement of Concurrence: The Department concurs with this measure. See the copy of CDFG Statement of Concurrence in Data Response 23 (Biological Resources Attachment 2).

29. The construction and operation of new facilities on the RERC site will not result in additional lighting. Therefore, there will be no impacts on wildlife.

During the construction of Units 1&2, lighting was placed along the eastern border of the project area, between the burrowing owl mitigation area and Payton Avenue, as well as along the western border of the project area. No lights were placed along the northern portion of the project area, which is located closest to the riparian corridor associated with the Santa Ana River. None of the existing lighting reaches the riparian corridor. Within the RERC site, the lights adjacent to the burrowing owl mitigation area likely attract and benefit owls that use it (Leslie MacNair, CDFG, personal communication, January 2008).

CDFG Statement of Concurrence: To clarify, the lighting may attract foraging by burrowing owls. The lighting should not impact the burrows as long as they are directed away from the burrows. See the copy of CDFG Statement of Concurrence in Data Response 23 (Biological Resources Attachment 2).

REFERENCES:

- Bowles, Ann E. 1995. Responses of Wildlife to Noise. Chapter 8, pp. 108-157 in: Knight, Richard L. and Kevin J. Gutzwiller (eds.) *Wildlife and Recreationists: Coexistence through Management and Research*. Island Press, Covelo, California.
- Tuma, Michael W. and Cummins, Taya K., 2007. Biological Resources Monitoring for the Riverside Energy Resource Center in Riverside, Riverside County, California. Report on file, SWCA, South Pasadena, CA