Amendment

Russell City Energy Center

Hayward, California

(01-AFC-7)

Amendment No. 1

Submitted to

California Energy Commission

Submitted by

Russell City Energy Company, LLC

With Technical Assistance by

2485 Natomas Park Drive
Sacramento, California 95833

November 2006

3.2 Biological Resources

The proposed relocation of project facilities will eliminate biological resources impacts that would have occurred under the project as previously configured. The previous location contained seasonal wetlands that would have been filled to construct the project and the new location avoids these. In addition, the previous location was adjacent to pickleweed (*Salicornia*) marsh that is habitat for the federally endangered salt marsh harvest mouse and clapper rail and had the potential to cause adverse impacts to these species and their habitat.

Biological resources issues were addressed in the 2001 AFC and agency consultation with CEC, U.S. Fish and Wildlife Service (USFWS), and California Department of Fish and Game (CDFG). However, the relocation of the project facilities and associated linears, and the movement of the construction parking area, involves the potential disturbance of areas not previously considered. The following provides a supplemental assessment of the potential effects on biological resources associated with these changes as proposed in this license Amendment petition. This analysis also provides an update of the environmental baseline in terms of sensitive species database records for the project area.

3.2.1 Environmental Baseline Information

The newly proposed project site and construction parking areas are located on parcels that are approximately 1,300 feet northwest (300 feet boundary to boundary) from the proposed power plant site as described in the 2001 AFC, and are within the analysis area as described in the 2001 AFC (AFC Figure 8.2-3). The following subsections describe the biological conditions of the new areas proposed for project changes, including types of vegetation and habitat currently present and special-status species known to occur in the general region.

3.2.1.1 Habitat and Vegetation Communities

The habitat potentially affected in the new project location area can be characterized as mixed-used industrial, and includes a metal shop, a pallet storage area, and automobile salvage yard. With the exception of scattered ruderal areas, most of the properties are devoid of vegetation. The ruderal areas are highly disturbed and characterized with non-native grasses and forbs. The new project location area does not include seasonal wetlands or other potential federal-listed vernal pool branchiopod habitat.

The habitat that would be temporarily affected by a new construction parking and laydown area can also be characterized as mixed-used industrial, and includes a former metal fabricating business (Runnels Industries) and a vacant lot (eastern portion of City of Hayward parcel). The Runnels property is mostly devoid of vegetation and is highly disturbed with a scattering of some ruderal areas. The ruderal areas are characterized with non-native grasses and forbs and was previously surveyed for the AFC. The City of Hayward parcel is characterized by ruderal vegetation with scattered coyote brush (*Baccharis pilularis*) shrubs. There are some former soil stockpile areas, and a few open gravel areas located at the site. The additional construction parking and laydown areas do not include seasonal wetlands or other potential federal-listed vernal pool branchiopod habitat.

3.2.1.2 Special-status Species

The AFC includes a list of special-status plant and wildlife species compiled for the project area based upon the following references: (1) the CDFG California Natural Diversity Data Base (CNDDB), (2) a USFWS species list for the area, (3) informal consultations with USFWS agency personnel, and (4) project-specific field surveys. Both the USFWS list and CNDDB were updated for this Amendment.

The 2001 AFC included the results of a CNDDB search of the San Leandro, Hayward, Newark, and Redwood Point 7.5-minute USGS topographical quadrangles. The results for the October 2006 CNDDB search are included in Figure 3.2-1. The 2006 CNDDB search results do not warrant the assessment of any special-status species not already included in the 2001 AFC or suggest the need for additional impact analysis of species included in the 2001 AFC.

Supplementary reconnaissance-level field surveys were performed by CH2M HILL biologist Russell Huddleston on September 14, 2006 to characterize the biological resources for the additional project features addressed in this Amendment. A resume indicating Mr. Huddleston's qualifications are provided in Appendix 3.2.

3.2.1.2.1 Special-status Plants

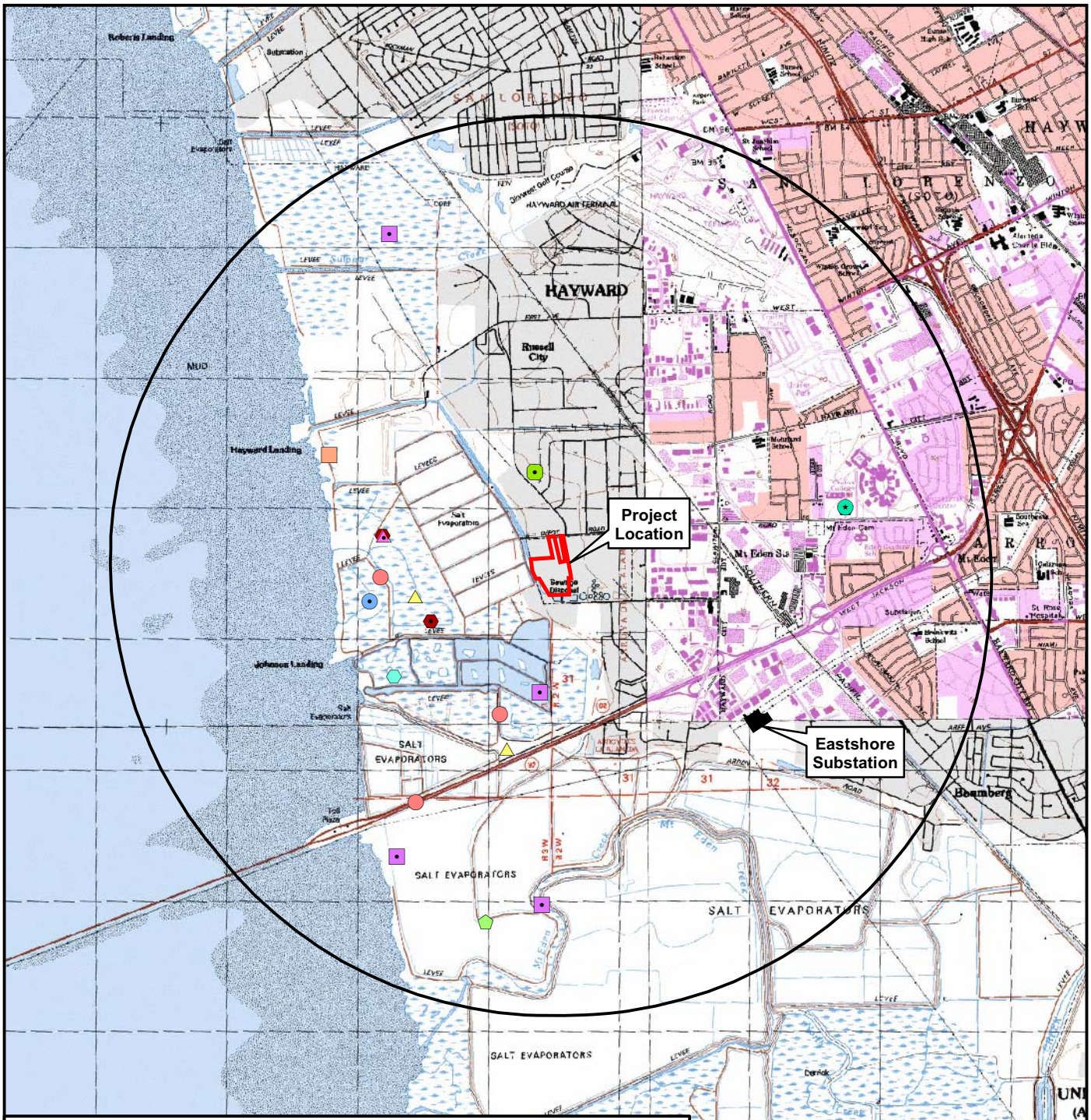
The analysis conducted for the 2001 AFC indicated that, at that time, 14 special-status plant species had the potential to occur in the project area. A new CNDDB search conducted for this Amendment resulted in two additions to this list as seen in Table 3.2-1. In addition, 8 of the species on the 2001 list are not present on the 2006 list.

TABLE 3.2-1
Special-Special-Status Plants Potentially Occurring Within the Project Area

Scientific Name	Common Name	Federal/State Status	Habitat Description	Potential for Species to Occur
Chorizanthe robusta var. robusta	Robust spineflower	FE/None/1B	Cismontane woodland, coastal dunes, coastal scrub.	No suitable habitat in the project area
Sanicula maritime	Adobe sanicle	None/Rare/1B	Meadows and seeps, valley and foothill grassland, chaparral, coastal prairie.	No suitable habitat in the project area

FE = Federally endangered

Based on the survey performed in September 2006, it was determined that suitable habitat for both of these plants is not available on the project site, and no additional consideration for project impacts is needed. No special-status plant species were observed in the project survey areas during protocol-level surveys conducted in support of the 2001 AFC and no evidence of these plant species was discovered during field reconnaissance for this Amendment, either within the power plant location or in the newly identified construction parking and laydown area.



LEGEND

ANIMALS

- ALAMEDA SONG SPARROW
- CALIFORNIA BLACK RAIL
- CALIFORNIA CLAPPER RAIL
- CALIFORNIA LEAST TERN
- BLACK SKIMMER
- NORTHERN HARRIER
- SALT-MARSH HARVEST MOUSE
- SALT-MARSH WANDERING SHREW
- WESTERN SNOWY PLOVER

PLANTS

- CONGDON'S TARPLANT
- CONTRA COSTA GOLDFIELDS
- ALKALI MILK-VETCH
- HAIRLESS POPCORN-FLOWER
- RCEC LOCATION
- 2 MILE BUFFER
- EASTSHORE SUBSTATION

N

0.5 0.25 0 0.5 Miles

SCALE IS APPROXIMATE

FIGURE 3.2-1
SPECIAL STATUS SPECIES RECORDED IN STUDY AREA
RCEC AMENDMENT #1
HAYWARD, CALIFORNIA

CH2MHILL

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TABLE 3.2-2
Special-Special-Status Wildlife Potentially Occurring Within the Project Area

Scientific Name	Common Name	Federal/State Status	Habitat Description	Potential for Species to Occur
Fish				
Eucyclogobius newberryi	Tidewater Goby	FE/None	Brackish water habitats along the California coast from Agua Hedionda Lagoon, San Diego Co. to the mouth of the Smith River. Found in Shallow lagoons and lower stream reaches, they need fairly still but not stagnant water and high oxygen levels.	No suitable habitat in the project area
Invertebrates				
Lepidurus packardi	Vernal Pool Tadpole Shrimp	FE/None	Inhabits vernal pools and swales in the Sacramento Valley containing clear to highly turbid water.	No suitable habitat in the project area
Mammals				
Scapanus latimanus parvus	Alameda Island mole	None/CSC	Only known from Alameda Island. Found in a variety of habitats, especially annual and perennial grasslands.	No suitable habitat in the project area

FE = Federally endangered
CSC = California Species of Concern

3.2.1.2.2 Special-status Wildlife

The analysis conducted for the 2001 AFC indicated that, at that time, 50 special-status wildlife species had the potential to occur in the general project area. A new CNDDB search conducted for this Amendment resulted in three additions to this list as seen in Table 3.2-2. In addition, 25 of the species on the 2001 list are not present on the 2006 list.

Based on the survey performed in September 2006, it was determined that suitable habitat for these special-status wildlife was not available, and no additional consideration for project impacts was needed. No special-status wildlife species were observed in the project survey areas during protocol-level surveys conducted in support of the 2001 AFC and no evidence of these wildlife species was discovered during field reconnaissance for this Amendment, either on the power plant location or in the newly identified construction parking and laydown area.

3.2.1.3 Biological Surveys

The biological resources evaluation is primarily based on the biological field surveys, agency consultation, and resulting analysis performed in support of the 2001 AFC. Supplementary field surveys were performed for this Amendment as described above, to characterize the biological resources for the additional construction laydown area addressed in this Amendment.

As with the initial field surveys, the 2006 reconnaissance-level biological surveys focused on characterization and potential impacts associated with vegetation communities, wetlands,

wildlife, and wildlife habitats in the vicinity of the new temporary and permanent impact areas. The field surveys were aided by aerial photographs, which helped identify land uses on the site and surrounding areas. The presence or potential presence of sensitive biological resources was determined from the former biological studies, the 2006 field surveys, and natural resource agency databases. A list of plant species observed during the 2006 biological surveys is included in Table 3.2-3. A list of wildlife species observed during the 2006 biological surveys is included in Table 3.2-4.

TABLE 3.2-3
Plant Species Observed During the Biological Reconnaissance Visits of the RCEC Project Area

Common Name	Scientific Name	Sign
Wild Oat	*Avena fatua*	Observed
Italian ryegrass	*Lolium multiflorum*	Observed
Foxtail barley	*Hordeum murinum* ssp. *leporinum*	Observed
Bermuda Grass	*Cynodon dactylon*	Observed
Smilo grass	*Piptatherum miliaceum*	Observed
Pampas grass	*Cortaderia* sp.	Observed
Bristly ox-tongue	*Picris echioides*	Observed
Bindweed	*Convolvulus arvensis*	Observed
Coyote brush	*Baccharis pilularis*	Observed
Wild mustard	*Brassica* sp.	Observed
Mallow	*Malva neglecta*	Observed
Curly dock	*Rurnex crispus*	Observed
Slender tarweed	*Madia gracillis*	Observed
Fennel	*Foeniculum vulgare*	Observed
Fireweed	*Epilobium* sp.	Observed
Scattered nut sedge	*Cyperus* sp.	
Eucalyptus	*Eucalyptus globulus*	Observed
Himalayan blackberry	*Rubus discolor*	Observed
Cattail	*Typha* sp.	Observed
Tule	*Schoenoplectus acutus*	Observed
Bulrush	*S. robustus*	Observed

TABLE 3.2-4
Wildlife Species Observed During the Biological Reconnaissance Visits of the RCEC Project Area

Common Name	Scientific Name	Location	Sign
Birds			
American Crow	*Corvus brachyrhynchos*	Flying over general vicinity	Observed
Great egret	*Casmerodius albus*	Flying near sediment ponds west of Depot Road	Observed
Black-neck stilt	*Himantopus mexicanus*	In and around waste water treatment ponds	Observed
Mourning dove	*Zenaida macroura*	Flying overhead	Observed
Brewer's blackbird	*Euphagus cyanocephalus*	Waste water treatment plant – often around ponds	Observed
Belding's savanna sparrow	*Passerculus sandwichensis*	Associated with ruderal vegetation on City Property north of Enterprise Ave.	Observed
Canada goose	*Branta canadensis*	In and around waste water treatment ponds	Observed
Gulls	*Larus* spp.	Flying over general vicinity	Observed
Killdeer	*Charadrius vociferus*	Waste water treatment plant – often around ponds	Observed
Mallard	*Anus platyrhynchos*	In and around waste water treatment ponds	Observed
Mammals			
Domestic dog	*Canis familiaris*	Parcel north of water treatment facility – belongs to one of the workers at the site	Observed

3.2.2 Environmental Consequences

In the 2001 AFC, potential direct and indirect impacts to biological resources were evaluated to determine the permanent and temporary effects of project construction, operation, maintenance, and decommissioning of the RCEC project and supporting facilities. The following includes an evaluation of the impacts associated with the proposed changes to the original project.

3.2.2.1 Standards of Significance

As with the 2001 analysis, impacts on biological resources are considered significant if one or more of the following conditions could result from implementation of the proposed project:

- Substantial effect, reduction in numbers, restricted range, or loss of habitat for a population of a state or federally listed threatened or endangered species
- Substantial effect, reduction in numbers, restricted range, or loss of habitat for a population of a California special-status species, including fully protected, candidate proposed for listing, California Species of Concern (CSC), and some California Native Plant Society (CNPS) list designations

- Substantial interference with the movement of resident or migratory fish or wildlife species
- Substantial reduction of habitat for native fish, wildlife, or plants
- Substantial disturbance of wetlands, marshes, riparian woodlands, and other wildlife habitat
- Removal of trees designated as heritage or significant under County or local ordinances

3.2.2.2 Potential Impacts from Moving Project Location and Construction Parking and Laydown Areas

Moving the project location will result in permanent impacts to approximately 18.8 acres. The area is currently disturbed, the dominant vegetation is non-native ruderal, and the parcels are currently being used for sewage drying, pallet storage, auto wrecking yards, and a metal fabricating shop. The quality of land as wildlife habitat is negligible as most of the properties are devoid of vegetation.

Use of the additional construction parking and laydown areas will result in temporary impacts to approximately 9.1 acres. These areas are currently disturbed, the dominant vegetation is non-native ruderal, and the parcels are currently being used for equipment and materials storage (Runnels Industries) or as vacant land (City of Hayward). Although the quality of the land as wildlife habitat is marginal, it could be used seasonally by foraging birds, small mammals, and reptiles. These properties may require temporary gravel placement to support materials and equipment and will likely be reclaimed for storage following project completion.

3.2.2.2.1 Special-Status Species

No special-status species have been observed or recorded by past project-specific database searches or surveys for the project area. The additional laydown area does not include unique habitat features that provide habitat for special-status species not addressed in the 2001 AFC. The additional laydown area does expand the temporary disturbance acreage of the overall project.

The project as previously configured was located adjacent to salt marsh habitat for the endangered salt marsh harvest mouse and clapper rail. Formal consultation with the USFWS regarding potential effects on these species was underway at the time that Calpine announced project suspension and a Biological Opinion was never issued. Because the project under the new configuration described in this Amendment is not located adjacent to salt marsh habitat, the new project will eliminate impacting these listed species, and consultation with the USFWS is not longer necessary.

3.2.2.2.2 Wetlands and Waters of the U.S.

No jurisdictional wetlands or waters are present within the new project location or the construction parking and laydown area. An excavated drainage ditch, which is a part of the Alameda County Flood Control District's storm water system, is present approximately 15 feet west the project area. The drainage is approximately 15 to 20 feet wide and conveys storm water runoff to the north (see Figure 2.2-1).

Recycled water will be applied to the laydown area for dust control during construction. Additional erosion and sediment discharge would be potentially harmful to water quality of adjacent drainage ditches. The Applicant will be required to have a Storm Water Pollution Prevention Plan (SWPPP) as part of compliance with a construction National Pollutant Discharge Elimination System (NPDES) permit. The permit specifies best management practices (BMPs) to avoid sediment runoff and erosion that would otherwise cause water quality degradation.

The project as previously configured required the filling of seasonal wetlands. A mitigation plan was developed that involved creation of wetlands, preservation and restoration of adjacent uplands, and restoration of tidal flow to salt marsh habitat. Permits under Section 404 of the Clean Water Act were not finalized at the time that Calpine announced suspension of the project. The project under the new configuration described in this Amendment will not require the filling of seasonal wetlands or a Clean Water Act Section 404 permit.

3.2.2.2.3 Noise

Construction of the RCEC project will involve pile-driving and HRSG steam blow noise as described in Section 3.7 (Noise). Pile-driving and steam blow could impact sensitive species breeding areas and wildlife using the surrounding areas. Because the previous project location was adjacent to salt marsh habitat that is home to the endangered salt marsh harvest mouse and clapper rail, a construction noise mitigation plan was proposed to alleviate this concern. However, the new project location is approximately 1,400 feet north and 2,500 feet east of the salt marsh habitat area. Distribution warehouses are located to the south of the project location between the marsh area and the project site, providing a buffer from noise impacts. To the west, the nearest pickleweed salt marshes are about 2,500 feet distant, separated from the project site by the City of Hayward's sludge drying ponds and by former water treatment ponds that are generally filled with open water. Because of the additional distance and the warehouse buffer, construction noise impacts will not be as disruptive, and therefore a construction noise mitigation plan will not be needed.

3.2.2.2.4 Bird Collisions with Stacks and Onsite Switchyard

The proposed project will be located in an industrial setting surrounded to the north, south and east by warehouses, water treatment facilities, and mixed industrial uses (pallet storage, metal shops, automobile salvage yards). Sludge drying ponds associated with the City of Hayward's WPCF are located to the west of the project area. Given the industrial setting and limited foraging and nesting habitat surrounding the proposed project site, bird collisions with cooling towers and other project facilities are expected to be minimal.

3.2.3 Mitigation Measures

Additional mitigation measures (beyond those of the Commission Decision) are not required for this Amendment. The existing measures will be adequate and adopted for the revised project and construction plans. Section 3.2.6 contains suggested modifications to the Conditions of Certification.

3.2.4 Consistency with LORS

The construction and operation of the RCEC, as amended, will conform with all applicable LORS related to biological resources.

3.2.5 References Cited

California Energy Commission. 2002. Commission Decision, Russell City Energy Center, Application for Certification (01-AFC-7), Alameda County. California Energy Commission, Sacramento, California. September 11.

3.2.6 Conditions of Certification

BIO-10 Habitat Compensation—Condition of Certification BIO-12 requires a construction habitat compensation program to mitigate the loss of seasonal wetlands. Because of the reconfigured site location, however, the project will not require the filling of seasonal wetlands. Therefore, this Condition of Certification is no longer necessary and should be deleted.

~~**BIO-10** The project owner shall provide 26.19 acres of habitat to compensate for the loss of upland, freshwater seasonal wetlands. To mitigate the permanent and temporary loss of habitat, the project owner shall:~~

~~1. Purchase 26.19 acres of habitat adjacent to the proposed RCEC site;~~

~~2. Donate the 26.19 acres of habitat to the East Bay Regional Park District ("EBRPD");~~

~~3. Assist in arranging a long-term lease to the EBRPD for 30 acres of salt marsh habitat owned by the City of Hayward;~~

~~4. Provide a suitable endowment fund to the EBRPD to manage the proposed habitat compensation and the City of Hayward property in perpetuity;~~

~~5. Implement the terms of the Agreement between EBRPD and the Russell City Energy Center LLC, to the extent such terms are consistent with the terms and conditions of this decision; and~~

~~6. Record, with the deed to the 26.19 acres of habitat compensation, an appropriate instrument containing such covenants as will benefit EBRPD and restrict use of the land as an enhanced wetland consistent with the terms and conditions of this decision. Such restriction shall be for the duration of the enhancement and monitoring activities specified in Section 1.2 of the Agreement between EBRPD and the Russell City Energy Center LLC.~~

~~**Verification:**~~

~~1. No less than 30 days prior to any site mobilization activities, the project owner shall provide written verification to the CPM that the required habitat compensation has been purchased and the restricting covenants recorded.~~

~~2. No more than 90 days after completion of the enhancement actions specified in Section 1.2 of the Agreement between the Russell City Energy Center LLC and the EBRPD, and their approval by the regulatory agencies, the project owner must provide written verification to the CPM that the Applicant has provided to the EBRPD a fee simple deed to the 26.19 acre parcel.~~

3. No less than 30 days prior to the start of construction of permanent structures, the project owner shall provide written verification to the CPM that the Applicant has paid to the EBRPD the first payment of $300,000. Thereafter, as each subsequent payment is made to the EBRPD in accordance with the terms of the Agreement between RCEC and EBRPD, the project owner shall provide written verification to the CPM within 30 days after each payment is made.

4. BIO-10 is independent of, and is not intended to change, the contractual rights and obligations of the Agreement between RCEC and EBRPD.

BIO-12 Construction Noise—Condition of Certification BIO-12 requires a construction noise mitigation program to protect the endangered salt marsh harvest mouse and clapper rail. Because of the reconfigured site location, however, the nearest pickleweed salt marsh habitat is approximately 1,400 feet south of the project site, not adjacent to the site as with the project as previously configured. A distribution warehouse is located between the marsh and the reconfigured location, providing an industrial buffer zone between the project and sensitive species. To the west, the nearest pickleweed salt marshes are about 2,500 feet distant, separated from the project site by the City of Hayward's sludge drying ponds and by former water treatment ponds that are generally filled with open water. Therefore, this Condition of Certification is no longer necessary and should be deleted.

BIO-12 The project owner will develop an approved construction noise mitigation plan that addresses how noise impacts to state and federally listed nesting and breeding sensitive vertebrate species will be minimized during construction.

The noise mitigation plan will discuss how pile-driving and HRSG steam blow noise will be mitigated. Regarding operational noise, the project owner shall provide written confirmation from EBRPD indicating that the habitat compensation endowment is sufficient to fund a predator management program for the life of the project. The final plan must be approved by the USFWS, CDFG, EBRPD, and Staff.

Verification: No less than 30 days prior to the start of any site mobilization activities, the project owner will provide to the Energy Commission CPM with a copy of the final, agency approved construction and operational noise mitigation plan and a signed letter from EBRPD indicating that the endowment agreement is sufficiently large to fund a predator management program.

BIO-14 Perch Deterrent—Condition of Certification BIO-14 requires a raptor Perch Deterrent Management Plan to protect the endangered salt marsh harvest mouse from predation by raptors. Because of the reconfigured site location, however, the project structures are no longer located adjacent to the salt marsh habitat of the endangered salt marsh harvest mouse. The new location is separated from the salt marsh by industrial buildings and will not provide opportunities for raptors to perch and prey on the salt marsh harvest mouse. For this reason, a raptor perch management program is no longer necessary and Condition of Certification BIO-14 should be deleted.

BIO-14 The project owner shall provide a final, approved Perch Deterrent Management Plan. The Perch Deterrent Management Plan shall:

1. Be approved by the USFWS, CDFG, EBRPD and Staff;

2. Identify how landscaping will deter perching, nesting/roosting of raptors and corvids;

~~3. Identify how the effectiveness of perch deterrents will be monitored and evaluated ; and~~

~~4. If needed, identify all measures to be implemented in the adaptive management plan, should monitoring indicate that perch deterrents are ineffective.~~

~~**Verification:** No less than 30 days prior to the start of any site mobilization activities, the project owner will provide to the Energy Commission CPM a final approved version of the Perch Deterrent Management Plan. The final Perch Deterrent Management Plan shall be included in the RCEC Biological Resources Mitigation Implementation and Monitoring Plan.~~

BIO-15 Wetland Mitigation—Condition BIO-15 provides for a plan to mitigate the filling of wetlands on the KFAX site. The reconfigured project will avoid these wetlands, however, so Condition of Certification BIO-15 is no longer applicable and should be deleted.

~~**BIO-15** The project owner shall provide a final, approved Wetland Mitigation Plan.~~

~~The Wetland Mitigation Plan shall:~~

~~1. Be approved by USFWS, USACE, RWQCB, EPA, CDFG, EBRPD and Staff;~~

~~2. Identify the timing, locations and all measures to be implemented for creation, preservation and enhancement activities;~~

~~3. Include the hydrological modeling analysis and all construction drawings to be used in support of dredging and levee removal and reduction activities; and~~

~~4. Identify performance criteria to be used in evaluating effectiveness of wetland mitigation measures.~~

~~**Verification:** No less than 60 days prior to any ground disturbance activities, the project owner shall provide to the Energy Commission CPM a final, approved copy of the Wetland Mitigation Plan. The final Wetland Mitigation Plan shall be included in the RCEC Biological Resources Mitigation Implementation and Monitoring Plan.~~