United States Department of the Interior

FISH AND WILDLIFE SERVICE
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In reply refer to:
81420-2008-F-0836-1

MAR 14 2008

Mr. Thomas J. Cavanaugh
U.S. Army Corps of Engineers
1325 J Street, Room 1480
Sacramento, California 95814-2922

Subject: Review of the Proposed Colusa Generating Station Project (Corps File Number 200600897), Colusa County, California, for Inclusion with the Vernal Pool Crustaceans Programmatic Consultation (Service file no. 1-1-96-F-001), the Programmatic Consultation for U.S. Army Corps of Engineers 404 Permitted Projects with Relatively Small Effects on the Giant Garter Snake (Service File No. 1-1-F-97-149).

Dear Mr. Cavanaugh,

This letter is in response to your June 13, 2007, letter and supporting documentation requesting section 7 consultation for the Proposed Colusa Generating Station project (proposed project), in Colusa County, California. Your request was received by the U.S. Fish and Wildlife Service (Service) on June 18, 2007. On November 8, 2007, the Service received the additional information requested to complete formal consultation. At issue are potential adverse effects to the threatened vernal pool fairy shrimp (*Branchinecta lynchi),* endangered vernal pool tadpole shrimp (*Lepidurus packardi*) (vernal pool crustaceans), and the threatened giant garter snake (*Thamnophis gigas*) (snake). The proposed project is not located in proposed or designated critical habitat for any federally-listed species. Therefore, no critical habitat would be affected. This document represents the Service's biological opinion on the effects of the proposed project on vernal pool crustaceans and the snake, in accordance with section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*) (Act).

Based upon the information provided, the Service concurs that the proposed project will not affect the endangered palmate-bracted bird's beak (*Cordylanthus palmatus*), threatened Hoover's spurge (*Chamaesyce hooveri)*, endangered hairy Orcutt grass (*Orcuttia pilosa)*, and the endangered Greene's tuctoria (*Tuctoria greenei)*. The Service has made this determination for the palmate-bracted bird's beak, Hoover's spurge, hairy Orcutt grass, and Greene's tuctoria as a result of negative focused surveys for federally-listed plants on the proposed project site and

surrounding vicinity. Based upon the information provided, the Service concurs that the proposed project will not affect the threatened valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*) (beetle) as a result of the proposed project. The Service has made this determination for the beetle as a result of negative, focused surveys for the elderberry shrub (*Sambucus sp.)* (the sole host plant of the beetle) within 100 feet of all proposed activities. Based upon the information provided, the Service concurs that the proposed project will not affect the endangered Conservancy fairy shrimp (*Branchinecta conservatio*). The Service has made this determination for the Conservancy fairy shrimp due to lack of suitable habitat on the proposed project site or surrounding vicinities that will be directly impacted. Based upon the information provided, the Service has determined the proposed action is not likely to adversely affect the threatened California red-legged frog (*Rana aurora draytonii*). The Service has made this determination for the frog as a result of lack of suitable aquatic habitat in at the proposed project site and no frogs documented in Colusa or Glenn Counties.

The proposed project is within the historic rage of the California tiger salamander (*Ambystoma californiense*). While there are no suitable breeding ponds on the proposed project site, there is one potential breeding pond located approximately 0.5 miles south west of the proposed power plant. There have been no observations of California tiger salamanders north of Yolo County within the past 40 years, and according to Mark Jennings salamanders are unlikely to be in the project vicinity (URS 2007). Based upon the information provided, the Service has determined the proposed action is not likely to adversely affect the California tiger salamander. Although it is unlikely for the salamander to occur on or near the proposed project site, PG&E has proposed the following conservation measures:

- Construction activities in grasslands would be timed to occur during the dry season (April 15 through October 15); if construction in these areas occurs during the wet season (October 16 through April 14), sediment fence will be placed around the project site perimeter within the defined dispersal corridors to minimize the potential for mortality of dispersing salamanders or other native amphibians and to enable construction to continue during the wet season.
- Prior to construction, a qualified biologist would conduct training sessions to familiarize all construction personnel with the following: identification of California tiger salamander, their habitat, general provisions and protections afforded by the ESA, measures implemented to protect the species, and a review of the project boundaries. This training would also be provided within 30 days of the arrival of any new worker.
- A biological monitor will be present during any new ground-disturbing activities that take place. The construction personnel shall inspect and examine any open excavations prior to the start of construction each morning. If a tiger salamander is observed, the construction personnel will contact the biological monitor immediately. The USFWS-approved biological monitor will transport the salamander out of the project area and release it into suitable habitat.

This consultation is based on the following: (1) a January 11, 2007, Interagency pre-application meeting, and provided December 2006, *Biological Assessment for the Colusa Generating Station Project*; (2) a February 6, 2007, interagency field visit at the proposed project site; (3) the

May 24, 2007, *Colusa Generating Station Project Jurisdictional Delineation Report-Revised Table and Figures*, received by the Service on May 31, 2007; (4) the June 13, 2007, letter requesting the initiation of section 7 consultation, on the proposed project, from the U.S. Army Corps of Engineers (Corps); (5) the August 24, 2007, *Colusa Generating Station Project-Supplement to the Biological Assessment*, received by the Service on August 27, 2007; (6) the September 25, 2007, Interagency meeting to discuss the proposed project; (7) the October 19, 2007, *Revised Colusa Generating Station- Final Biological Assessment*, received by the Service on October 22, 2007; (8) the November 8, 2007, meeting with the Service, to discuss the proposed project; (9) the January 30, 2008, *Colusa Generating Station Project- Proposed Mitigation Assurance to be Incorporated into the Service Biological Opinion*; (10) the February 19, 2008, electronic message (e-mail) detailing the compensation for the proposed project, from URS; (11) email correspondence between the Service, URS, Corps, Environmental Protection Agency (EPA), California Energy Commission, and California Department of Fish and Game (CDFG), from February 2007 through February 2008; and (12) other information available to the Service.

Based on the available information, we have determined that it is appropriate to append the proposed project to the *February 28, 1996, Programmatic Formal Endangered Species Act Consultation on Issuance of 404 Permits for Projects with Relatively Small Effects on Listed Vernal Pool Crustaceans Within the Jurisdiction of the Sacramento Field Office, California (1-1-96-F-001)* (Vernal Pool Programmatic) and the *November 13, 1997, Programmatic Formal Consultation for U.S. Army Corps of Engineers 404 Permitted Projects with Relatively Small Effects on the Giant Garter Snake within Butte, Colusa, Glenn, Fresno, Merced, Sacramento, San Joaquin, Solano, Stanislaus, Sutter and Yolo Counties, California (1-1-F-97-149)* (Snake Programmatic).

BIOLOGICAL OPINION

Description of the Proposed Action

Pacific Gas and Electric (PG&E) proposes to construct and commission a nominal 660-megawatt (MW) combined cycle power plant on 31 acres of a 100 acre site, and associated upgrades to bridges and transmission lines. The proposed project site is located adjacent to Delevan Road, approximately 4 miles west of Interstate 5 (I-5), 14 miles north of the farming community of Williams, and 72 miles north of Sacramento in Colusa County, California. The proposed project site is within the Holthouse Ranch and is found within the eastern half of Section 35, Township 18 North, Range 4 West, Mount Diablo Base and Meridian. The power plant site consists of 100 acres of a 451-acre parcel (Assessor's Parcel Number (APN) 11-040-024, Colusa County). The proposed power plant site is located 2,000 feet west of the Tehama-Colusa Canal and 3,000 feet to the east of the Glenn-Colusa Canal. Habitat types on the proposed power plant site and associated upgrade areas include annual grassland, vernal pool grassland, alkali grassland, canal, freshwater marsh, perennial stream, seasonal stream, vernal pools, seasonal wetlands, rice, and irrigation ditches.

The proposed project would include a 22.5-acre power generation facility and stormwater detention basin, a 8.2-acre switchyard, a 43-acre construction area (including laydown, parking, and office), a 1,800 foot-long electrical interconnection to PG&E's existing transmission lines, a 1,500 foot-long natural gas pipeline connecting to PG&E's existing natural gas lines, a 2,700 foot-long water supply pipeline from the Tehama-Colusa Canal, and a 2,500 foot-long access road extending from the existing road leading to the PG&E Compressor Station. In addition, a permanent 12 foot-wide dirt road would be constructed along the pipeline conveying water from the Tehama-Colusa Canal to the power plant. The road would be used for maintenance and access to the water intake at the Tehama-Colusa Canal. A property line fence is proposed to be constructed around the Colusa Generating Station. The Alkali grassland habitat would be temporarily disturbed during the construction of this fence. There are no special status species that occur in the alkali grassland at the proposed project site. To minimize effects to this alkali grassland habitat PG&E has proposed the following conservation measure:

- Prior to construction, the limits of alkali grassland vegetation within the generating station property would be clearly marked. No work would be allowed within the marked alkali grassland habitat except as required to construct the property line fence.

To allow for transportation of some of the heavier equipment components to the site, the following two bridges would be replaced: (1) a bridge on Dirks Road over the Glenn-Colusa Canal, and (2) a bridge on McDermott Road over Teresa Creek. In addition, the eastern side of the Delevan/ McDermott Road intersection would be slightly widened. After construction is completed, local access roads would be repaved or resurfaced as necessary and appropriate.

Teresa Creek Bridge

The existing Teresa Creek Bridge is an older structure with a wood deck. The new Teresa Creek Bridge would be approximately 75-feet in length with no piers or abutments in waters of the United States. To accommodate local traffic during construction of the new bridge, a temporary 14 foot-wide culvert crossing and detour road would be installed immediately downstream of the existing bridge prior to construction of the new bridge. Construction of the new Teresa Creek Bridge would be divided into three components, as generally described below.

Temporary Bypass. Construction of the new bridge would occur during the dry season. Temporary culverts would be placed in the stream channel to convey the expected flows in Teresa Creek while the detour route is in place. The temporary culvert is expected to be 16-feet wide and 11-feet high. The applicant would coordinate construction activities with Colusa County and the Glenn-Colusa Irrigation District to determine the anticipated flow rate of discharges into Teresa Creek during the construction period.

The pipe culverts would be laid on gravel placed on the creek bed, and would be overlain with gravel and backfill to form a roadway embankment placed over the culverts, and a road graded and possibly paved (depending on the average daily traffic count) for the passage of traffic.

Construction of the temporary culvert crossing would temporarily impact the perennial stream and seasonal wetland vegetation between the existing bridge and the temporary crossing.

Bridge Removal. Bridge demolition equipment would be needed to remove the existing structure. The timber superstructure would be removed with a small crane, tractor, and truck. Abutments would be demolished using concrete demolition equipment. The use of sheet piling or cofferdams could be considered during the final design process, to limit work within flowing water during bridge demolition. All existing bridge structure and materials would be removed from the site and disposed in an approved landfill. It is not known whether the existing bridge abutment is on piles. If piles are present, the top 2 feet would be removed in accordance with the Caltrans Standard Specifications.

Permanent Structure. The permanent replacement bridge would be constructed after the temporary bridge is installed and operational. The permanent structure would meet all applicable design standards for conveying expected flows to avoid changes in stream depth and flow rates in the project area. Culvert or abutment walls would use wood forms to accommodate cast-in-place construction. Wingwalls at the upstream and downstream sides of the structure would be constructed to prevent scouring of the bridge abutments. The wingwall on the northwest side of the bridge abutment would be constructed to prevent erosion of the bank where two drainage culverts discharge into Teresa Creek. Water draining from the culverts has eroded a wide section of bank below the outfall. The culverts would extend through the wingwall and the stream bank behind the wall, which has been eroded, would be backfilled. The retaining wall, construction, and backfill would result in permanent fill.

After the permanent bridge has been constructed, the temporary stream crossing would be removed and all disturbed areas would be returned to pre-project conditions. During construction, adequate flows allowing for fish passage would be maintained at all times. The culverts installed for the temporary bridge would be large enough so as not to restrict peak expected flows. If dewatering of some areas is required during construction, a qualified biologist would be present during dewatering to ensure that fish are not injured. Fish that may be trapped behind the cofferdam would be netted and removed from the dewatering area. Additionally, a net or some other type of fish screen would be used on the end of the dewatering pump, to prevent any fish from being sucked into the pumping mechanism, providing the biologist with adequate opportunity to remove the fish from the area. All disturbed areas would be revegetated with native species, including disturbed areas adjacent to the active channel.

Glenn-Colusa Canal Bridge

The existing Glenn-Colusa Canal Bridge located at the end of Dirks Road was built in 1965 to provide access to, and support the construction of, the PG&E Delevan Gas Compressor Station. This bridge is a four-span concrete-decked structure that is 74 feet long by 20 feet wide. The bridge provides weight-limited one-way truck traffic and speed-limited two-way automobile traffic with 2-foot shoulders. The bridge was originally designed for a 40-ton load, but is currently rated H-20, a 20-ton load, by the American Association of State Highway and Transportation Officials (AASHTO).

A new Glenn-Colusa Canal Bridge is necessary because the heaviest equipment for the plant would exceed the HS-20 rating of the existing bridge. The new bridge cannot be constructed in the same location because the existing bridge would be required as site access for initial construction mobilization while the new bridge is being installed.

The new Glenn-Colusa Canal Bridge would be approximately 100-feet long by 30-feet wide and would be a three-span bridge. The east approach would be located approximately 75-feet south of the existing bridge, and the west approach would be located about 45-feet south. This would provide for two 12-foot lanes with 3 foot shoulders, giving unimpeded two-way traffic flow. The bridge deck would be replaced in time to accommodate the heavy haul equipment entering the site. The bridge would be fitted with side guard rails and would be striped to permit safe passage of traffic.

The replacement design includes a 1.09-acre temporary construction staging and parking area on the east side of the Glenn-Colusa Canal as well as an approximately 135-foot construction right-of-way along the alignment. The access road on both sides of the bridge would be realigned to straighten and widen the approaches to allow for unimpeded two-way traffic, re-aligning with the current Dirks Road right-of-way as soon as practical. A retainer wall would be placed along the northern side of Dirks Road, on the east side of the replacement bridge, to enable the continued use of the current irrigation canal. Two rows of five driven piers would be constructed in the canal to support the bridge. A cofferdam of corrugated steel sheet piles would be installed so that the work area for each bridge abutment can be dewatered. The cofferdams would be placed as close as possible to the abutment construction area to minimize the impact to the flow of the canal. If necessary only one cofferdam would be installed at a time. The inside of the cofferdam would be dewatered using pump(s) and the water would be released back into the canal downstream of the cofferdam. The two cofferdams would respectively dewater approximately 0.009 and 0.011-acre of canal. The bridge piers would be driven pre-cast concrete or drilled cast in place concrete, installed by equipment located on the canal embankment and can be installed even during high water levels without the use of cofferdams around the pier locations.

The existing bridge would be removed after the new bridge is constructed. The concrete deck and the three sets of five piers associated with the existing bridge would be removed. The piers would be cut off at the mud line and removed during low or empty water conditions, which would allow the work to be done without placing heavy equipment into the canal. A temporary 2- to 4-foot-high preformed plastic cofferdam placed around each set of five piers one set at a time, would be anchored to the canal bed using stakes or other temporary attachment methods with the necessary dewater being released back to the canal. Since this would be done during low or no water conditions there would be no impact to canal operations. The approximate area to be temporarily dewatered by the cofferdams is 0.012 acre. The two bridge abutments supporting the existing bridge would be left in place to eliminate construction impacts to the canal embankments. This would not affect the operation of the canal. The original bridge approaches would be final-graded to match the surrounding land contours and seeded with grass native to the region.

Upon completion of the bridge replacement, the road approaches would be final-graded to match the surrounding land contours and seeded with grass native to the region. All disturbed areas would be returned to pre-project conditions after construction is complete.

Delevan and Mc Dermott Road Improvement

To accommodate the wide-turning radius of some heavy-haul trucks, the northeastern and southeastern corners of the intersection of Delevan Road and McDermott Road would be widened by grading and placement of gravel around these corners. Grading would occur up to the area between the existing pavement and the concrete abutment to the irrigation canal. No modifications of the irrigation canal are proposed. Grading would require relocation of the stop sign and telephone conduit box at the northeastern corner of the intersection.

Construction, Access and Staging Areas

Construction of the proposed project would temporarily disturb 95.82 acres. Approximately 35.1 acres would be used for permanent operation. Mobile trailers would be used as construction offices for contractor and subcontractor personnel. Construction laydown areas would extend beyond the 100-acre site boundary. A separate sublease would be used as part of the agreement with the property owner to secure the additional area required for construction laydown. The proposed site would be accessed by a new 30-foot-wide, approximately 2,500-foot-long road extending from an existing PG&E Road Easement. Temporary construction fencing would be installed along both edges of the existing PG&E access road during construction to prevent construction vehicles from intruding into adjacent environmentally sensitive habitat. The best achievable control measure for fugitive dust would be employed during construction. A 17-point dust suppression program has been proposed as part of the AFC.

Schedule

Construction of the project is scheduled to occur over 24 months, beginning in early 2008. The project, including offsite infrastructure as well as startup and commissioning, would be completed and would begin commercial operation by the spring of 2010. Construction activities would be scheduled to avoid or minimize disturbance to special-status species.

Re-Vegetation/ Erosion Control

Revegetation of the project site at Teresa Creek, the Glenn-Colusa Canal, and adjacent areas would be implemented according to the 1997 Service programmatic consultation guidelines for restoration and/or replacement of giant garter snake habitat. Vegetation disturbed at Teresa Creek and the Glenn-Colusa Canal, and surrounding areas during the bridge replacements would be replanted with appropriate native species, such as California bulrush (*Scirpus californicus*), cattail (*Typha spp.*), and water primrose (*Ludwigia peploides*) in the emergent wetland area. Additional wetland plantings may include common tule (*Scirpus acutus*) or Baltic rush (*Juncus balticus*). Cover species on or adjacent to the creek bank would include creeping wild-rye (*Elymus triticoides*), California blackberry (*Rubus ursinus*) or wild grape (*Vitis californica*).

Upland plantings would include a hydroseeding mix of species such as purple needle-grass (*Nassella pulchra*), annual fescue (*Vulpia spp.*), blue wildrye (*Elymus glaucus*), and California brome (*Bromus carinatus*). An erosion control mat would be laid down if stabilization of the bank were needed.

The topography of the sites shall be restored to pre-existing conditions once proposed construction activities at the Teresa Creek Bridge and Glenn-Colusa Canal bridge sites have been completed. New plantings would be monitored by a Service/CDFG approved biologist annually for five years or until the banks are adequately revegetated to prevent erosion and sedimentation at these areas. The timing of the post-restoration surveys will vary based on the peak growing season for each wetland community. Monitoring in a given area may conclude early if the performance criteria have been met for two consecutive years.

Adequate vegetation cover would be determined using the following performance criteria:

- Year 1 – 60 percent of vegetation cover measured at undisturbed reference sites adjacent to project site;
- Year 2 – 70 percent of vegetation cover measured at undisturbed reference sites adjacent to project site;
- Year 3 – 80 percent of vegetation cover measured at undisturbed reference sites adjacent to project area;
- Year 4 – 85 percent of vegetation cover measured at undisturbed reference sites adjacent to project site; and
- Year 5 – 90 percent of vegetation cover measured at undisturbed reference sites adjacent to project site.

Reference sites would be selected in areas that would not be disturbed by the proposed project. These sites would be field selected by the Service/CDFG approved biologist. Fence posts or other permanent markers with signs would mark the reference sites indicating that they are reference sites and they are not to be disturbed. The areas selected as a reference sites would have the same cover, density, and species composition as the areas to be impacted.

Erosion control would be considered successful if the following erosion thresholds are not exceeded:

- Flow Pattern Development – more than 25 percent of the area shows evidence of recent translocation and deposition of soil and litter.
- Rills – usually greater than 3 inches deep and found at less than 10-foot intervals.
- Gullies – more frequent than 200 foot intervals and appear to be unstable.

If performance criteria for revegetation or erosion control are not met, the Permittee proposes to implement the following remedial measures:

- Areas that do not meet revegetation criteria would be reseeded. If necessary, the seed mix may be modified to substitute other native species to improve success; and
- Temporary erosion control measures including silt fences, erosion control blankets, bio-logs, or straw bales would be installed as necessary to prevent ongoing erosion or sedimentation until remedial seeding measures can be fully implemented.

Monitoring reports of the Glenn-Colusa Canal and Teresa Creek restoration would be submitted to the Service and CDFG upon completion of the restoration implementation and by January 31 of each year following the monitoring period. All monitoring reports will include the following information:

- Names, titles, and affiliations of all persons who prepared the report and conducted field work.
- Summaries of all monitoring data, including species and survivorship.
- Electronic or color copies of photo-documentation to illustrate monitoring results.
- Maps showing the monitoring area.
- Remedial action recommendations, as needed.

Following the completion of Year 5 monitoring, the Permittee will submit a final monitoring report and notify the agencies whether or not the project has successfully met the final performance criteria. This report will clearly describe how and when all performance criteria were met and will request a confirmation of project completion from the permitting agencies.

Proposed Conservation Measures

Vernal Pool Crustaceans

Protocol level surveys for listed crustaceans were not conducted on the proposed project site and the applicant is assuming presence on site for vernal pool crustaceans. The Service has determined that the proposed project is likely to directly affect the federally-listed vernal pool tadpole shrimp and the vernal pool fairy shrimp inhabiting 0.154 acres of seasonal wetlands that occur south of the existing PG&E access road. There are no indirect effects to federally-listed vernal pool crustacean habitat associated with the proposed project.

PG&E has proposed to offset the direct impacts to 0.154 acre of vernal pool crustacean habitat by purchasing 0.308 acres of vernal pool preservation credits and 0.154 acre of vernal pool creation credits at a Service-approved vernal pool conservation bank. If no Service-approved ecosystem banks are available where the proposed project is located, the Service may extend the service boundaries of other banks that occur in the same vernal pool region.

Giant Garter Snake

The Service has determined that the proposed project is likely to permanently affect the federally listed giant garter snake inhabiting 1.184 acre of habitat. Of the 1.184 acres of permanently

affected habitat, 0.684 aces are aquatic habitat and 0.500 acres are upland habitat. The Service has determined that the proposed project is likely to temporarily affect the federally listed giant garter snake inhabiting 2.70 acres of habitat. Of the 2.70 acres of temporarily affected habitat, 1.83 acres are aquatic habitat and 0.87 acres are upland habitat.

PG&E has proposed to offset temporary impacts to 2.70 acres of giant garter snake habitat by restoring effected habitat on-site within one season. PG&E has proposed to offset permanent impacts to 1.184 acres of giant garter snake habitat by acquiring fee title to all giant garter snake habitat credits equal to 3.552 acres required pursuant to the Biological Opinion (BO) from a mitigation bank approved by the U.S. Fish and Wildlife Service (Service) and the California Department of Fish and Game (CDFG).

All monitoring and performance standards would be the responsibility of the mitigation bank managers.

Evaluations under Programmatic Consultations

Vernal Pool Crustaceans

This letter is an agreement by the Service to append the proposed project to the *February 28, 1996, Programmatic Formal Endangered Species Act Consultation on Issuance of 404 Permits for Projects with Relatively Small Effects on Listed Vernal Pool Crustaceans Within the Jurisdiction of the Sacramento Field Office, California (1-1-96-F-001),* and represents the Service's biological opinion on the effects of the proposed action. Conservation measures for projects appended to the Programmatic Consultation involve the use of creation and preservation banks in combination with on-site conservation options where such options are appropriate.

The conservation measures identified in the Programmatic Consultation include:

1. **Preservation component**. For every acre of habitat directly or indirectly affected, *a minimum of* two vernal pool credits will be dedicated within a Service-approved ecosystem vernal pool preservation bank: or, based on Service evaluation of site-specific conservation values, three acres of vernal pool habitat may be preserved on the project site or another non-bank site as approved by the Service.

2. **Creation component**. For every acre of habitat directly affected, *a minimum of* one vernal pool creation credit will be dedicated within a Service-approved habitat creation bank: or, based on Service evaluation of site-specific conservation values; two acres of vernal pool habitat will be created and monitored on the project site or another non-bank site as approved by the Service.

The proposed project will result in direct effects to 0.154 acres of habitat for vernal pool crustaceans. The agreed upon conservation responsibilities of the applicant are as follows:

1. Prior to the start of any earth moving activities at the project site, the project applicant shall purchase at least 0.308 acres (0.154 acre at a 2:1 ratio = 0.308 acre) of vernal pool preservation credits within a Service-approved ecosystem vernal pool preservation bank. If no Service-approved ecosystem banks are available where the proposed project is located, the Service may extend the service boundaries of other banks that occur in the same vernal pool region

2. Prior to the start of any earth moving activities, the applicant shall purchase at least 0.154 acres (0.154 acre at a 1:1 ratio = 0.154) acre of vernal pool creation credits within a Service-approved vernal pool creation bank. If no Service-approved banks are available, and with Service approval, the project applicant may contribute funds to a Service-approved fund account serving the proposed project area.

Conservation Measures:

PG&E has proposed the following conservation measures to reduce impacts to vernal pool crustaceans:

- No ground-disturbing construction activities would occur within 250 feet of vernal pools that are near the proposed transmission line interconnection.
- All non-ground disturbing construction activities within 250 feet of vernal pool habitat, near the proposed transmission line interconnection would be limited to the dry season (May 1 to October 15) when listed vernal pool branchiopods are only present as durable resting eggs (cysts) and branchiopod habitat is less likely to be indirectly affected by erosion or sedimentation.
- An existing dirt road would be used to access the existing transmission line towers. Access to the new transmission line segments would be located within the corridor of the proposed alignment. If necessary, a path may be mowed through the vegetation to reduce fire hazard, using an attachment to the rubber tired vehicle. No blading of vegetation would occur.
- A Service approved biologist would monitor all ground-disturbing activities.
- All onsite construction personnel would receive a Service approved worker environmental awareness training program to alert them of the sensitive resources and the required avoidance measures.
- Upon completion of the project, all areas that have been temporarily impacted by the project would be restored to approximate original site conditions (e.g., topography, hydrology, and vegetation).

- Prior to construction, a buffer zone, located 250 feet from the wetland margins of the vernal pools will be clearly marked as a sensitive area by a Service approved biologist.

- All ground-disturbing activities would be excluded from the buffer zone for the duration of construction. Only rubber-tired vehicles will be allowed within the buffer zone. To protect potential special-status plants and the cysts of listed vernal pool branchiopods, no vehicles or personnel would be allowed within the wetland boundaries of the vernal pools.

- Paving of the existing PG&E access road west of the new bridge approach would be confined to the top of the existing road embankment. The road would be repaved but the shoulders of the road would not be widened and no ground-disturbing work would occur on the sides of the embankment. Repaving of the road would occur after construction is completed, sometime in early 2010.

- Certified weed-free straw wattles or silt fences would be used, as needed, to prevent sediment from disturbed areas from reaching seasonal wetlands and vernal pools during rain events. Straw wattles would be installed at the top of the PG&E access road embankment during repaving to prevent paving materials, sediment or other contaminants from reaching vernal pools. Straw wattles would be regularly inspected and maintained for the duration of construction or until the disturbed areas have been revegetated.

- No vehicles would be allowed to drive off of the existing PG&E access road west of the new bridge approach within 250 feet of vernal pools or other seasonal wetlands.

- No vehicles or personnel would be allowed within the wetland boundaries of the vernal pools.

Giant Garter Snake

The Service is tracking losses of habitat within the range of the snake permitted under the *November 13, 1997, Programmatic Formal Consultation for U.S. Army Corps of Engineers 404 Permitted Projects with Relatively Small Effects on the Giant Garter Snake within Butte, Colusa, Glenn, Fresno, Merced, Sacramento, San Joaquin, Solano, Stanislaus, Sutter and Yolo Counties, California (1-1-F-97-149)*, and compensation for those losses, in each county under the jurisdiction of the Sacramento Fish and Wildlife Office. The Service reevaluates the effectiveness of this Snake Programmatic Consultation annually to ensure that continued implementation will not result in unacceptable impacts to the snake or the habitats upon which it depends.

The Snake Programmatic Consultation identifies three levels of project impacts and appropriate conservation measures for each impact level (below). It is the Service's intent that following these Guidelines and Avoidance Measures will reduce habitat degradation while increasing the protected habitat areas across the species' range. These measures include the following:

1. Avoidance of take and disturbance of habitat (Levels 1, 2, and 3);

2. Minimization of disturbance and habitat loss (Levels 1, 2, and 3);

3. Restoration of temporary habitat disturbance and associated impacts to snake habitat (Levels 1 and 2);

4. Replacement of permanent and temporal habitat loss (Levels 2 and 3);

5. Management and monitoring of restored and replacement habitat (Levels 1, 2, and 3); and

6. A management plan for the long-term protection of the restored and replaced habitat area(s) to protect the area(s) in perpetuity as habitat for the snake (Levels 2 and 3).

The proposed project site provides five types of suitable aquatic snake habitat including freshwater marsh, rice field, irrigation ditch, canal, and perennial stream. Due to records for the snake adjacent to the action area; and presence of suitable habitat, the Service believes that the snake is reasonably certain to occur within the proposed project's action area and, therefore, the proposed project is likely to adversely affect the snake through permanent loss of 1.184 acres of potential habitat and temporary loss of 2.70 acres of potential habitat.

The agreed upon conservation responsibilities of the applicant are as follows:

1. Construction activities associated with the proposed project will result in permanent loss of 1.184 acres of habitat (0.684 acres of aquatic and 0.500 acres of upland) for the snake (Level 3 Effects). PG&E will follow the Level 3 project impact mitigation as a result of the permanent loss of habitat. The calculation is as follows: 0.684 acres of aquatic habitat at a 3:1 ratio = 2.052 acres, 0.500 acres of upland habitat at a 3:1 ratio = 1.500 acres. For a total of 3.552 acres of snake habitat needed to off set permanent impacts to habitat for the snake. If credits are not available within one year of the date of permit issuance, the Permittee may proceed with ground-disturbing Project activities before fully performing all of its habitat acquisition duties and funding obligations only if the Permittee secures the mitigation performance by providing financial assurances in the form of an irrevocable letter of credit, an escrow account, a pledged savings account or another form of security acceptable to the Service and CDFG and approved by the CDFG Office of the General Counsel. The financial assurance device shall designate the Service or CDFG as beneficiary, and shall be in an amount sufficient to guarantee an adequate level of funding for the performance of the Permittee's unperformed minimization, mitigation and compensation obligations for giant garter snake, as required in the BO. The security shall be in the amount of approximately $259,840. The basis for this amount

is $45,000 per acre for the purchase of 3.552 acres of offsite aquatic and upland habitat and $100,000 for onsite restoration, revegetation, and monitoring of temporary disturbance areas. The off-site compensation would include credits for 2.052 acres of aquatic habitat and 1.500 acres of upland habitat, as specified in the 1997 Service programmatic consultation for giant garter snake (based upon 3:1 replacement of permanently loss of aquatic and upland habitats). The security includes the cost of creation, monitoring, and maintenance of marsh habitat. Each giant garter snake credit purchased at a mitigation bank includes the following:

1. Construction of the marsh habitat
2. Monitoring the created marsh for specified measurable success criteria
3. Long term funding endowment for the management of the habitat as well as a permanent conservation easement

2. Construction activities associated with the proposed project will result in temporary loss of 2.70 acres of habitat (1.83 acres of aquatic and 0.87 acres of upland) for the snake (Level 1 Effects). PG&E will follow the Level 1 project impact mitigation as a result of the temporary loss of habitat. The applicant will restore the temporary impacts of 2.70 acres of habitat for the snake to pre-project conditions within the same season, or at most, the same calendar year.

Conservation Measures:

PG&E has proposed the following conservation measures to reduce impacts to the snake:

- All construction activity associated with the Teresa Creek Bridge replacement, the Glenn-Colusa Canal Bridge replacement, the PG&E access road alignment, and during placement of gravel along the east side of the Delevan Road/McDermott Road intersection would be conducted between May 1 and October 1. This is the active period for giant garter snakes and direct impacts are lessened because snakes are actively moving and avoiding danger.

- Any dewatered habitat must remain dry for at least 15 consecutive days after April 15 and prior to excavating or filling the dewatered habitat.

- All construction personnel would participate in a Service approved worker environmental awareness program. Workers would be informed about the presence of the giant garter snake and that unlawful take of the animal or destruction of its habitat is a violation of the Endangered Species Act (Act). A qualified biologist shall instruct the construction personnel about (1) the life history of the snake; (2) the importance of irrigation canals, wetlands, and seasonally flooded areas such as rice fields, to the giant garter snake; and (3) the terms and conditions of any agreement reached with the Service.

- Exclusion fencing would be installed along the margins of temporary disturbance areas within giant garter snake aquatic or terrestrial habitat.

- Clearing of vegetation from the stream would be confined to the minimal area necessary to excavate toe of bank for fill placement.

- Areas designated for avoidance would be clearly marked as environmentally sensitive and avoided by all construction personnel.

- A Service approved biologist would inspect the work area within 24 hours prior to commencement of construction activities. The monitoring biologist would be available thereafter, and if a snake is encountered during construction, the monitoring biologist shall have the authority to stop construction activities until appropriate corrective measures have been completed or it is determined that the snake would not be harmed.

- After construction, any temporary fill or debris shall be removed and all disturbed areas would be restored to pre-project conditions.

- Construction speed limits of 20 miles per hour are proposed to minimize the potential for increased traffic volumes to result in an increased incidence of road-kill of giant garter snakes during project construction. These construction speed limits would be posted on project-controlled roads leading to the project site, and all traffic to and from the plant site would be required to obey the speed limit. These signs, or other signs posted along the same route, would alert drivers to the potential presence of snakes. Additionally, a worker awareness program would be used to inform all workers of the need to watch for and avoid snakes that may be present along roadways. This program would require that drivers entering the project site be provided with an informational handout.

This concludes formal consultation on the proposed Colusa Generating Station project. As provided for in 50 CFR Section 402.1, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been maintained (or is authorized by law), and if: (1) the amount or extent of incidental take is exceeded, as previously described, or the requirements under the incidental take section are not implemented; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent that was not considered in this opinion; (3) the proposed action is subsequently modified in a manner that causes an effect to listed species that was not considered in this opinion; and/or (4) a new species is listed or critical habitat is designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

If you have any questions regarding the Colusa Generating Station project, please contact Michelle Tovar, or the Acting Sacramento Valley Branch Chief, at (916) 414-6645.

Sincerely,

Peter A. Cross

Peter A. Cross
Deputy Assistant Field Supervisor

cc:
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