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FEDERAL ENERGY REGULATORY COMMISSION

****1** Office Director Orders

Pacific Gas & Electric Company

Project No. **1354**-005

ORDER ISSUING NEW **LICENSE**

(Issued September 16, 2003)

***64550** 1. On April 29, 1986, Pacific Gas & Electric Company (PG&E) filed an application for a new **license** pursuant to Sections 4(e) and 15 of the Federal Power Act (FPA), 16 U.S.C. §§ 797(e) and 808, for continued operation and maintenance of the 28.7 megawatt (MW) Crane Valley Project (FERC No. **1354**). The project, which occupies 738.11 acres of the Sierra National Forest, is located on Willow Creek, North Fork Willow Creek, South Fork Willow Creek, Chilkoot Creek and Chiquito Creek, in Madera County, California. On June 28, 2001, PG&E amended its application. Issuing a new **license** for the project, as conditioned herein, is in the public interest because it will allow PG&E to generate needed electric power while protecting and enhancing environmental resources.

BACKGROUND

2. In its April 29, 1986, relicense application, PG&E proposed constructing a powerhouse on the project's Browns Creek conduit and making a number of environmental enhancements. Notice of the application was published on September 10, 1986. The California Department of Fish and Game filed a timely motion to intervene in this proceeding. Late motions to intervene were filed by The Pines Resort, North Fork Chamber of Commerce, Bass Lake Chamber of Commerce, Eastern Madera County Chamber of Commerce, and California Save Our Streams Council. These late motions to intervene were granted on March 17, 1989.

3. An Environmental Assessment (EA) was issued in March 1992. The EA found conflicting requirements in two of the conditions submitted ***64551** by the U.S. Forest Service (FS) pursuant to Section 4(e) of the FPA and requested the FS to revise the conditions. PG&E appealed several of the FS's 4(e) conditions. In January 1996, PG&E notified the Commission that it intended to withdraw the proposal for the new powerhouse and most of the environmental enhancements. PG&E proposed discussions with the key state and federal agencies to establish project enhancements that would take into account the changing economic conditions brought about by deregulation. These discussions resulted in an agreement in June 1997.

4. In the June 27, 1997 agreement, the collaborative group, known as the Crane Valley Project Committee (CVPC), composed of the licensee, local citizen groups, federal and state resources agencies, and county officials, proposed resource management measures that would enhance recreation, sustain critical resources, and minimize environmental effects. The CVPC agreement, which was filed with the Commission, became known as the "Phase 1 Agreement" and includes the unified recommendations of the CVPC to the Commission on the terms of a new hydropower **license** and associated resource improvements for the Crane Valley Project. Although the Phase 1 Agreement is not a legally binding settlement agreement, it contains a balanced set of enhancement measures that have been reviewed and agreed with by many of the stakeholders in the project.¹ The Phase 1 Agreement defines four levels of resource improvements and an understanding by the parties to the agreement that the package of improvements defined as Level II is the minimally acceptable package of recommendations.

****2** 5. In August 1999, the Commission approved a request by PG&E and the agencies to use an Alternative **Licensing** Process to prepare an amendment to the application for new **license** using the agreement as a foundation. The amended **license**

application was filed in June 2001. Notice of the amended application was issued July 19, 2001. Motions to intervene were filed by the California State Water Resources Control Board, Department of the Interior, Robert Brooke, and the Bass Lake Homeowners Association.

6. In the amended application, PG&E proposed to implement the package of mitigation and resource management recommendations contained in Level II of the Phase I Agreement. Therefore, Commission staff used Level II as the proposed action in its Supplemental EA, which was issued on September 26, 2002. The FS filed final conditions pursuant to Section 4(e) on December 12, 2002.

7. Several entities filed comments pertaining to the Supplemental EA, including the State Water Resources Control Board, Beverly Fleming, Robert and Barbara Brooke, the Bass Lake Homeowners Association, Inc., the Pines Resort, the Sierra Mono Museum, the Mono Nation, and thirty eight private citizens who have similar concerns regarding Bass Lake reservoir levels. Many commenters suggest that the analyses contained in the Supplemental EA are inadequate and that additional data collection and analyses need to be undertaken to fully examine project effects on water quality, sedimentation, aquatic species, and socioeconomic impacts related to reservoir elevations. Numerous private citizens and citizen groups also expressed concern regarding conclusions related to lake elevations.

8. I believe that the Supplemental EA, which is based upon stakeholder input and information accumulated over the 17-year history of this proceeding, is of sufficient scope and detail to take final action on this **license**. The document sets forth recommendations, which are made conditions of this **license**, that fully protect and mitigate the effects of continued operation of the project on environmental resources and, where appropriate, provide opportunities to enhance these resources, including recreational resources. I have fully considered the comments received from interested agencies and individuals in determining whether, and under what conditions, to issue this **license**. The **license** conditions I include in this **license** adopt the Level II recommendations of the Phase I Agreement as well as additional measures Commission staff recommends. These conditions also include provisions for monitoring and further refinement of the required protection, mitigation, and enhancement measures.

PROJECT DESCRIPTION

9. The Crane Valley Project consists of five developments, which include five powerhouses, two storage reservoirs (Bass and Chilkoot Lake), four smaller impoundments (three forebays and one afterbay), and a network of tunnels and conduits. The project diverts water from the North and South Forks of Willow Creek through the Crane Valley, San Joaquin No. 3, San Joaquin No. 2, San Joaquin No. 1a, and Wishon developments.

****3** 10. The 900-kilowatt (kW) Crane Valley development is located on North Fork Willow Creek and is the furthest upstream. The Crane Valley development consists of the Crane Valley Dam, Bass Lake, Crane Valley powerhouse, Chilkoot Lake pick-up ditch, Chilkoot Dam, and Chilkoot Lake. Bass Lake is formed by Crane Valley Dam and is about four miles long. Water is released from Bass Lake through a tunnel and penstock to the Crane Valley powerhouse. After passing through the powerhouse, the water is released into the San Joaquin No. 3 Conduit. Upstream of Bass Lake, Chilkoot Dam is located on Chilkoot Creek and creates Chilkoot Lake. The Chilkoot ***64552** Lake pick-up ditch collects water, primarily spring runoff, and delivers it to Chilkoot Lake. When the water stored in Chilkoot Lake is released, it flows down Chilkoot Creek to North Fork Willow Creek and then into Bass Lake. Bass Lake also receives inflow from flow diverted from the Browns Creek development, which diverts water from the South Fork Willow Creek into the 2-mile-long Browns Creek conduit.

11. The 4-MW San Joaquin No. 3 development consists of the San Joaquin No. 3 conduit, forebay dam and impoundment, penstock, powerhouse, and the Manzanita Dam and Lake (Manzanita Lake is the afterbay for the San Joaquin No. 3 development and is located in the North Fork streambed). The San Joaquin No. 3 conduit collects water released from the Crane Valley powerhouse and transports it about 3.5 miles to the development's forebay. From there, water flows through a penstock about 0.6 miles to the powerhouse. Water from the powerhouse enters Manzanita Lake. Water released from the Manzanita Dam flows into the San Joaquin No. 2 conduit.

12. The 2.88-MW San Joaquin No. 2 development consists of the San Joaquin No. 2 conduit, forebay dam and impoundment, penstock, and powerhouse. The San Joaquin No. 2 conduit carries water about three miles from Manzanita Dam to the San Joaquin No. 2 forebay. From the forebay, water travels through the penstock about 0.75 miles to the powerhouse. From the powerhouse, water flows into the San Joaquin No. 1 conduit.

13. The 400-kW San Joaquin No. 1A development consists of the South Fork diversion dam (located on South Fork Willow Creek), the North Fork diversion dam (on North Fork Willow Creek), the San Joaquin No. 1 conduit, a penstock and the San Joaquin No. 1A powerhouse. The South Fork diversion dam diverts water from the South Fork Willow Creek through a flume to the North Fork Willow Creek. The North Fork diversion dam diverts water from the North Fork Willow Creek (including the water from the South Fork diversion dam) through a tunnel and flume to the San Joaquin No. 1 conduit. Water from the San Joaquin No. 2 powerhouse and water diverted by the South Fork and North Fork diversion dams flow into the San Joaquin No. 1 conduit, just below the San Joaquin No. 2 powerhouse. The conduit transports the water about five miles to the San Joaquin No. 1A powerhouse. Water released from the powerhouse flows into Lake Corrine, which is the forebay for the Wishon development.

****4** 14. The 16-MW Wishon development consists of a forebay dam and impoundment (Lake Corrine), dual penstocks, and a powerhouse. Water from Lake Corrine flows through the dual penstocks about 0.8 mile to the powerhouse. Water is released from the Wishon powerhouse into the San Joaquin River.

15. Historically, PG&E has operated Chilkoot Lake as a seasonal storage facility. PG&E closes the release valve at the lake in October or November to store winter and spring runoff. PG&E usually opens the release valve in June, draining Chilkoot Lake into Bass Lake. If storage is not available in Bass Lake, PG&E delays opening the valve.

16. PG&E operates the project so that Bass Lake fills by the end of the spring runoff season. When Bass Lake reaches its highest level, usually during June or July, PG&E begins to draw the reservoir to meet the requirements of the 1909 Miller-Lux agreement², which the Bureau of Reclamation (BR) now administers for irrigation. Under the Miller-Lux agreement, BR can order the release of stored water exceeding 60 percent of reservoir capacity between September 15 and October 1 of each year. Between November 1 and January 1 of the following year, BR can order the release of stored water exceeding 50 percent of reservoir capacity.

17. Except during spill events, all releases from Bass Lake are through the Crane Valley powerhouse. This water passes through each of the developments in turn and, except for its passage through Manzanita Lake, does not return to the Willow Creek drainage. Seepage from Crane Valley dam and inflows to North Fork Willow Creek below the dam are captured at Manzanita Lake. Seepage from Manzanita dam and inflows below Manzanita dam are diverted at the North Fork diversion dam.

18. PG&E proposes to modify its operation of the project by releasing minimum flows into the bypass reach of North Fork Willow Creek, South Fork Willow Creek, and Willow Creek. PG&E proposes to release a 2-cfs minimum flow into North Fork Willow Creek below Bass Lake, a 2 cubic feet per second (cfs) minimum flow below Manzanita Lake, a 4.5 cfs to 10 cfs minimum flow (depending on the month) in the South Fork Willow Creek below the Browns Creek diversion dam, and 0.5 cfs in Willow Creek below the North Fork and South Fork diversion dams, as measured at Rex Ranch.

19. A detailed description of the project facilities is contained in Ordering Paragraph (B)(2) below.

WATER QUALITY CERTIFICATION

20. Section 401(a)(1) of the Clean Water Act (CWA)³ provides that the Commission may not issue a **license** for a hydroelectric project unless the state water quality certifying agency has issued a water quality certification for the project or has waived certification by failing to act on a request ***64553** for certification within a reasonable period of time, not to exceed one year.

Section 401(d) of the CWA provides that the state certification shall become a condition of any federal **license** or permit that is issued.⁴

****5** 21. PG&E filed a request with the State Water Resources Control Board (SWRCB) for water quality certification for its application for a new **license** for the Crane Valley Project on November 4, 1985. The SWRCB did not act on PG&E's application within one year, and as a result, certification for the project was deemed waived. As noted, on July 28, 2001, PG&E filed an amendment to its application for the Crane Valley Project. The SWRCB contends that the amended application requires a new application for water quality certification.

22. PG&E's 1986 application proposed: (1) adding a powerhouse to use the head in the Browns Creek conduit; (2) upgrading equipment at Crane Valley, San Joaquin No. 3, San Joaquin No. 2, and Wishon powerhouses by installing new, more efficient turbine runners; (3) lining the Wishon project penstocks with mortar to reduce friction; (4) modifying the San Joaquin No. 1 conduit to increase its hydraulic capacity; (5) providing minimum flows in North Fork Willow Creek, South Fork Willow Creek, and Willow Creek; and, (6) providing flushing flows in South Fork and North Fork Willow Creeks.

23. In its 2001 amended **license** application, PG&E eliminates the Browns Creek powerhouse, certain proposed equipment upgrades, and the flushing flows. CWA Section 401(a)(1) requires water quality certification for "any activity . . . which may result in any discharge" into United States waters. PG&E's deletion of these proposals does not constitute an activity which may result in a discharge. Consequently, the amended application does not require a new certification.

COASTAL ZONE MANAGEMENT ACT

24. Under Section 307(c)(3)(A) of the Coastal Zone Management Act (CZMA), [16 U.S.C. §1456\(3\)\(A\)](#), the Commission cannot issue a **license** for a project within or affecting a state's coastal zone, unless the state CZMA agency concurs with the **license** applicant's certification of consistency with the state's CZMA program. The Crane Valley project is located outside of California's coastal zone, and California has not described a geographic location, as provided by [15 C.F.R. § 930.53\(a\)](#), for federal **license** activities outside the coastal zone that it would wish to review. California has not notified the Commission or the applicant that it wishes to review the application, as provided in [15 C.F.R. §§ 930.53\(a\)\(2\)](#) and [930.54](#) for activities located outside a coastal zone where the state has not described a geographical location for review. Therefore, certification is not required.

FEDERAL LANDS - SECTION 4(e) CONDITIONS

25. Most of the Crane Valley Project is located within the Sierra National Forest, which is a reservation, as defined by Section 3(2) of the FPA, [16 U.S.C. § 796\(2\)](#). Section 4 (e) of the FPA, [16 U.S.C. § 797\(e\)](#), states the Commission may issue a **license** for a project within a reservation only if it finds that the **license** will not interfere or be inconsistent with the purpose for which such reservation was created or acquired. The Sierra National Forest was created by presidential proclamation on February 14, 1893. See 27 Stat. 1059. That proclamation does not specify the purposes for which the forest was created. However, the Organic Administration Act of 1897, [16 U.S.C. § 475](#), stipulates that all national forest lands were established and administered only for watershed protection and timber production. (U.S. Statutes at Large, 58th Cong., 1905-1907, Vol. 33, p. 628.)⁵ Issuing this **license** will not adversely affect these goals. Therefore, I find that this **license** will not interfere or be inconsistent with the purposes for which the Sierra National Forest was created.

****6** 26. FPA Section 4(e) also requires that a **license** for a project located on a United States reservation must include all conditions that the Secretary of the department under whose supervision the reservation falls shall deem necessary for the adequate protection and use of such reservation. The FS provided mandatory conditions under Section 4(e) of the FPA on December 10, 2002. FS condition nos. 2 and 3 are standard conditions that would involve obtaining FS approval on final project design and use of project land, and yearly consultation with the FS to ensure the protection and development of natural resources. FS condition nos. 20 through 32, 34 through 38, 41, and 42 are also standard conditions that address forest management and

administration concerns regarding the continued occupancy and use of National Forest System lands. FS condition nos. 33, 39, and 40 are standard conditions that would require a visual resource plan, a transportation system management plan, and a hazardous substance plan. FS condition 43 would allow the FS to modify its conditions to respond to the Final Biological Opinion. The remaining FS conditions 4 through 19 are special conditions specific to the Crane Valley Project.

27. Here I summarize the special [Section 4\(e\)](#) conditions. FS conditions related to water resources include condition nos. 4 (minimum streamflow requirements), 5 (stream temperature monitoring), 6 (lower Willow Creek native aquatic species monitoring), and 7 (Rex Ranch flow study [*64554](#) plan). FS condition nos. 8 and 9 would require a stream channel geomorphology, sediment transport and channel maintenance flow management plan, and the implementation of the Bass Lake Erosion Control Plan. Terrestrial resources are the subject of FS condition nos. 13 (additional deer crossing and the protection of mule deer), 14 (the protection of other threatened, endangered, proposed for listing, and sensitive species), 15 (bald eagles and raptor management plans), 18 (noxious weed management plan), and 19 (riparian area monitoring plan). FS condition no. 16 would require a transmission line corridor habitat management and maintenance plan, and condition no. 17 would require an Historic Properties Management Plan. Recreational resources are provided for in FS condition nos. 10 (lake levels), 11 (recreational development), and 12 (a recreation plan including recreational use surveys).

SECTION 18 FISHWAY PRESCRIPTIONS

28. Section 18 of the FPA provides that the Commission shall require a licensee to construct, operate, and maintain such fishways as may be prescribed by the Secretary of the Interior or the Secretary of Commerce, as appropriate.⁶ By letter dated May 13, 2002, the Secretary of the Interior requests that a reservation of authority to prescribe the construction, operation, and maintenance of appropriate fishways be included in any [license](#) issued for the Crane Valley.

****7** 29. The Commission recognizes that future fish passage needs and management objectives cannot always be determined at the time of project [licensing](#). In such cases, the Commission's practice has been to include a [license](#) article, when requested, that reserves the Secretary of the Interior's authority, as appropriate, to prescribe fishways.⁷ Therefore, Article 408 reserves Interior's authority to prescribe fishways.

RECOMMENDATIONS OF FEDERAL AND STATE FISH AND WILDLIFE AGENCIES UNDER FPA SECTION 10(j)

30. Section 10(j)(1) of the FPA⁸ requires the Commission, when issuing a [license](#), to include conditions based on recommendations by federal and state fish and wildlife agencies, submitted pursuant to the Fish and Wildlife Coordination Act,⁹ to “adequately and equitably protect, mitigate damages to, and enhance fish and wildlife (including related spawning grounds and habitat)” affected by the project. If the Commission believes that any such recommendation may be inconsistent with the purposes and requirements of Part I of the FPA or other applicable law, Section 10(j)(2) requires the Commission and the agencies to attempt to resolve any such inconsistency, giving due weight to the recommendations, expertise, and statutory responsibilities of such agencies.

31. By letter dated May 19, 2002, CDFG submitted four recommendations for the project. One recommendation was not within the scope of Section 10(j).¹⁰ The [license](#) contains conditions consistent with the three other recommendations.

32. By letter dated May 13, 2002, Interior submitted twelve recommendations for the project. One recommendation was not within the scope of Section 10(j).¹¹ Of the eleven recommendations that fell within the scope of Section 10(j), recommendations in the Supplemental EA were consistent with two. The two recommendations relate to flume/canal maintenance and fish passage at the Browns Creek Diversion. Article 406 requires the development of a maintenance plan for the canal and flume, in consultation with the Interior, to minimize impacts to water quality. Article 407, as discussed later in this order, addresses the issue of fish passage at the Browns Creek Diversion consistent with the recommendations made by Interior. Staff recommended

adopting five of the recommendations in part and determined that four of the recommendations may be inconsistent with Sections 4(e) and 10(a)(1) of the FPA.¹²

33. Staff recommended adopting, in part, Interior's recommendations that the licensee be required to develop: (1) a sediment management plan within six months; (2) a vegetation management plan within six months; (3) a water temperature monitoring plan; (4) a bald eagle protection plan within six months; and (5) an erosion control plan. As discussed below, we were able to reach agreement on all these recommendations with the exception of the timing of the bald eagle protection plan.

****8** 34. Staff made a preliminary determination that the following four recommended **license** requirements may be inconsistent with the purposes and requirements of either Section 10(a)(1) or Section 313(b) of the FPA: (1) develop a water ***64555** quality monitoring plan; (2) develop a wildlife habitat management plan; (3) prepare an adaptive management plan for fish and wildlife habitats; and (4) minimum flows. As discussed below, we were not able to reach agreement on these recommendations.

35. Interior responded by letter dated November 15, 2002 saying that it agreed with three of the five conditions adopted in part. Interior also suggested revisions to its original recommendations on the four conditions that were not adopted and one of the conditions that was adopted in part. Commission staff contacted Interior to attempt to arrange a conference call and resolve the remaining inconsistencies. Interior informed Commission staff that it did not want to participate in a conference call. By letter of February 6, 2003, Commission staff concluded the 10(j) process for the project.

36. In its November 15 letter, Interior agreed that the one-year deadline for preparing and filing the sediment management plan and the vegetation management plan recommended by staff was acceptable, thus resolving the inconsistencies in these two recommendations. The sediment management plan and vegetation management plan are required by Articles 403 and 409, respectively.

37. Staff recommends, and the FS's Section 4(e) Condition no. 5 requires, that PG&E prepare a plan to monitor water temperature in project-affected stream reaches for a period of five years. In its November 15 letter, Interior states that it would accept a six-year monitoring. Interior's recommendation would provide an additional year of temperature data at minimal cost. Accordingly, I will adopt Interior's recommendation and, in Article 405, add one year to the monitoring required by FS. There is no conflict with the FS condition, only an extension thereof.

38. Interior recommends that PG&E develop and implement, within six months of **license** issuance, a bald eagle management plan for Bass Lake. Staff recommends that PG&E file a bald eagle and raptor protection plan within one year of **license** issuance. The bald eagle and raptor protection plan is required by FS's Section 4(e) condition no. 15 and Article 417 within one year. Although staff's recommendation allows a longer period of time to prepare and file the plan, it adopts the substance of Interior's recommended condition and would adequately protect the bald eagle and other raptor species. We believe 1 year is more appropriate given the additional species covered by the staff-recommended plan and the more extensive consultation requirements, including consultation with local Native American Tribes. Therefore, I conclude that Interior timing recommendation is inconsistent with the substantial evidence standard of Section 313(b) of the FPA.

****9** 39. Interior also recommends that PG&E develop and implement an erosion control plan for the project's reservoirs and bypassed reaches. Staff recommends that PG&E continue to implement the existing Bass Lake Erosion Control Plan and develop a sediment management plan for North Fork Willow Creek, South Fork Willow Creek, and Willow Creek as well as these other measures. Article 402 of the **license** requires PG&E to continue to implement the Bass Lake Erosion Control Plan, and Article 403 requires the development and implementation of the sediment management plan. Further, by requiring PG&E to limit releases from Chilkoot Lake, Article 404 would reduce stream erosion in Chilkoot Creek and Article 406 would ensure that PG&E properly handles sediment removed from canals and flumes during maintenance. The combination of the Bass Lake Erosion Control Plan, the sediment management plan, as well as the other measures, address the total project area, which is consistent with the Interior's recommended erosion control plan.

40. Interior recommends that PG&E develop a water quality monitoring plan to monitor dissolved oxygen and pH. Commission staff made a preliminary determination that this recommendation was inconsistent with the substantial evidence provision of Section 313(b) of the FPA. Staff notes that, based upon the relicense application study data, the project meets applicable water quality standards except for temperature. Interior modified this recommendation by including water quality as a component of a broader monitoring plan that Interior recommends as part of its modified minimum flow recommendation. Interior offered no additional evidence in support of its recommendation. Proposed project operations would have little effect on existing water quality conditions and would likely benefit existing water conditions by reducing water temperatures and increasing DO in the project affected stream reaches. I agree that Interior's water quality monitoring recommendation is inconsistent with Section 313(b) of the FPA because it is not supported by substantial evidence, and our measures--increased minimum flows and temperature monitoring-- adequately protect water quality.

41. Interior recommends that PG&E develop and implement a wildlife habitat management plan. Interior states that the plan should “identify the specific causes responsible for population declines or a species' absence from particular habitats, and to protect, mitigate and enhance wildlife habitats in the Project area through adaptive management.” Interior specifically identified constructing and maintaining deer crossings over the project's conduits and canals to protect mule deer as a component to be included in the plan. Because Interior didn't identify any other project-related concerns for wildlife species that aren't already covered by our recommended measures for bald eagle and raptor protection and mule deer monitoring, staff made a preliminary determination that Interior's recommendation of a wildlife habitat management plan was inconsistent with the substantial evidence standard of Section 313(b) of the FPA. The measures included in this *64556 license addressing deer crossing bridges, protection of sensitive species, protection of bald eagle and other raptors, transmission line management (section 4(e) conditions 13 through 16), noxious weed management, riparian area monitoring (section 4(e) conditions 18 and 19), and vegetation management (Article 409) adequately protect wildlife resources affected by the project I agree that Interior's recommendation is not supported by substantial evidence. ¹³

**10 42. Interior also recommends that PG&E “prepare an adaptive management ¹⁴ plan, to avoid and minimize Project operation effects on fish and wildlife and their habitats, and to enhance instream biota and riparian resources.” Interior did not, however, identify target resources, monitoring strategies, or specific performance measures necessary for Commission staff to determine the potential costs and benefits associated with adaptive management. In addition, PG&E's ability to modify project operations is constrained by water agreements and the competing demands for recreation use and fisheries protection. Commission staff made a preliminary determination that this recommendation may be inconsistent with the substantial evidence standard of Section 313(b) of the FPA. I conclude that this recommendation is not supported by substantial evidence.

43. Interior recommended minimum flows in North Fork Willow Creek below Bass Lake and below Manzanita Lake of 4 cfs from January through May, 3 cfs in June and December, and 2 cfs from August through November. Interior's recommended minimum flows for South Fork Willow Creek below the Browns Creek diversion dam were 12 cfs in January and June, 14 cfs in February, 16 cfs from March through May, 6 cfs in July and November, and no diversion from August through October. The recommended minimum flows in Willow Creek, as measured at Rex Ranch, were 12 cfs in January and June, 14 cfs in February, 16 cfs from March through May, 6 cfs in July and November, 4 cfs from August through October, and 8 cfs in December.

44. In the Supplemental EA, staff concluded that the staff-recommended flows would provide a substantial increase in the amount of available habitat for rainbow and brown trout over existing conditions in the South Fork reach, would support trout fisheries in the North Fork reach downstream of Bass Lake, would provide adequate habitat for trout in the North Fork reach downstream of Manzanita Lake (a reach that does not have the potential to provide prime fish habitat), and in Willow Creek would provide fish passage and pool continuity for hardhead and Sacramento suckers while discouraging the migration of green sunfish and other non-native predatory fish species from Bass Lake into the lower reaches of Willow Creek. Under Interior's recommendation, Bass Lake water levels would be about 4 feet lower than current elevations during below normal runoff years, compared to 2 feet under the staff recommendation. Staff concluded that its flow recommendation represented a balance among fisheries protection, recreational use, and energy production and the cost of releasing the higher flows recommended by Interior would not be warranted based on the expected limited ecological benefit and on the negative effects on recreation use at Bass

Lake. Staff made a preliminary determination that the recommendation cited above may be inconsistent with the public interest standard of [Section 4\(e\)](#) and comprehensive planning standard of [Section 10\(a\)](#).

****11** 45. In response to staff's preliminary determination, Interior modified its recommended minimum flows. Interior now recommends lower minimum flows for an interim period of two years, with a monitoring plan to determine whether the resource agencies' goals for water quality, water temperature, recreation, fish and wildlife habitat, and lake levels are being met. Interior recommends year-round interim minimum flows of 2 cfs in North Fork Willow Creek below Bass Lake and Manzanita Lake and 0.5 cfs in Willow Creek, as measured at Rex Ranch. Interior recommends interim minimum flows in South Fork Willow Creek below Browns Creek diversion dam of 4.5 cfs in January and June through December, 8 cfs in February and May, and 10 cfs in March and April.¹⁵ Interior recommends that after two years, the minimum flows would be adjusted as needed, based on the results of the monitoring plan. The flow could again be modified after 6 years of **license** issuance.

46. [Section 4\(e\)](#) condition no. 4 included in this **license** sets minimum flows consistent with Interior's modified recommendations (with exception of the dry and critically dry year variances). In addition, there are requirements for PG&E to monitor stream temperature, sediment, stream channel geomorphology, riparian vegetation, bald eagle nesting, native species of Willow Creek. Although Article 401 allows the Commission to require changes to project operation, including increasing minimum flows, based on the data generated by the monitoring plans, this monitoring does not provide measurable, quantitative decision triggers for determining whether the resource agency goals and objectives are being met, ***64557** require a reevaluation of flows after 2 years, or provide for determining whether agency instream aquatic habitat goals are being met. Thus Interior's original recommendation would constitute their [Section 10\(j\)](#) recommendation.¹⁶ Therefore, I find Interior's original flow recommendation is inconsistent with the public interest standard of [Section 4\(e\)](#) and comprehensive planning standard of [Section 10\(a\)](#), as discussed above. As staff notes above and in the Supplemental EA, the minimum flow I recommend would substantially increase trout habitat without resulting in a significant cost to power, or a significant effect on Bass Lake water levels.

47. Thus I conclude that our recommendations adequately and equitably protect, mitigate damage to, and enhance fish and wildlife resources affected by the project.

ENDANGERED SPECIES

48. Section 7(a)(2) of the Endangered Species Act of 1973 (ESA)¹⁷ requires federal agencies to ensure that their actions are not likely to jeopardize the continued existence of federally-listed threatened or endangered species, or result in the destruction or adverse modification of designated critical habitats of such species. Federally-listed wildlife species that may occur in the project area include bald eagles (threatened), California red-legged frogs (threatened), and Valley elderberry longhorn beetles (Valley beetles) (threatened). Federally listed plant species that may occur in the project area include Mariposa pussypaws (threatened).

****12** 49. On October 3, 2002, pursuant to Section 7 of the ESA, Commission staff submitted to FWS a biological assessment (BA).¹⁸ The BA concludes that relicensing the project with the recommended enhancement measures “would not affect” the Mariposa pussypaw and “may affect, but is not likely to adversely affect” the California red-legged frog, bald eagle, and Valley beetle.

50. On November 1, 2002, FWS filed a letter concurring with the BA's conclusions on the Mariposa pussypaw and California red-legged frog. FWS did not concur with the BA's conclusions on the Valley beetle and bald eagle. For the Valley beetle, FWS stated that the proposed management guidelines were consistent with its conservation guidelines, but that the possibility of adverse effects would require formal consultation, and might require an incidental take permit. For the bald eagle, FWS stated that project operation, existing recreation, and proposed recreational enhancements could cause disturbance to foraging eagles

and could result in a taking. On November 8, 2002, staff mailed a request for formal consultation to FWS.¹⁹ To date, FWS has neither issued its biological opinion nor requested an extension of time to complete ESA consultation.

51. In the Supplemental EA, staff concludes that **licensing** the project with the recommended environmental measures would not be likely to adversely affect the Valley beetle. I concur. The new **license** contains Article 409, which requires PG&E to file and implement a vegetation management plan. This plan will include provisions that will protect elderberry shrubs and the Valley beetle, such as bans on mowing and bans on the use of insecticides, herbicides, fertilizers, and other chemicals near suitable Valley beetle habitat. The new **license** also contains FS condition no. 15, which requires PG&E to prepare and implement a bald eagle and raptor protection plan. This plan will include provisions to identify and protect eagle habitats and identify measures to minimize disturbance of nesting and wintering bald eagles. Article 411 gives the Commission the authority to reopen the **license** to address ESA issues concerning the bald eagle and the Valley beetle, including modifying the **license** to address any conditions that may arise from a biological opinion that FWS may issue on this relicensing action. Compliance with the **license** provisions will enhance, rather than adversely alter, the environmental *status quo*, and will not make irreversible or irretrievable commitments of resources which could have the effect of foreclosing the formulation or implementation of any reasonable and prudent alternative measures.²⁰ Therefore, it is reasonable to proceed without awaiting a biological opinion from FWS.²¹

CULTURAL RESOURCES

52. On December 13, 2002, the California State Historic Preservation Officer, the Sierra National Forest, the Advisory Council on Historic Preservation, and the Commission executed a Programmatic Agreement stipulating that PG&E would develop, within one year of issuance, an HPMP for managing historic properties that may be affected by relicensing of the Crane Valley Project. PG&E signed the Programmatic Agreement (PA) as a concurring party. The Federally-recognized North Fork Rancheria of Mono Indians of California also signed the PA as a concurring party, as did other local Native American Tribes, including the Sierra Mono Museum, Mono *64558 Nation, and Native Earth Foundation. The North Fork Mono Tribe and Federally-recognized Picayune Rancheria of Chukchansi Indians participated in consultation, but did not sign the PA. Execution and implementation of the PA satisfies the Commission's responsibilities under Section 106 of the National Historic Preservation Act.

****13** 53. Implementation of the HPMP would protect all existing and future historic properties located within the area of potential effect. In its final [Section 4\(e\)](#) condition no. 17, FS requires PG&E to carry out the HPMP according to the PA. In Article 412, the Commission requires the licensee to carry out the Programmatic Agreement, including the HPMP.

54. To provide opportunities for the Native American Community to comment on relicensing studies and the HPMP, PG&E has held quarterly meetings of the Crane Valley Cultural Resources Committee since April 2001 at the Forest Service's office in North Fork. These meetings included representatives of the agencies, tribes, and Commission staff. On January 8, 2002, Commission staff participated in Forest Service government-to-government consultation about the project in separate meetings with the North Fork Rancheria of Mono Indians of California and Picayune Rancheria of Chukchansi Indians. The Commission received written comments from the Sierra Mono Museum (November 12, 2002), Mono Nation (November 12, 2002), and North Fork Mono Tribe (September 2, 2002).

55. The North Fork Mono Tribe reiterated concerns about the following: providing for curation of archaeological artifacts; project herbicide use; effects on Willow Creek; access to traditional use areas; and financial restitution for project damage to archaeological sites. The tribe also reasserted its claim of tribal ownership of project land and water rights. The Sierra Mono Museum also expressed concerns related to adequate provision for artifact curation and public information. The Mono Nation asked the Commission for a firmer and more defined commitment to preserving archaeological sites, public interpretation, addressing vandalism, and use of Native American monitors. The Mono Nation also expressed concern about herbicide use.

56. This **license** includes conditions to address the concerns raised by the various Native American groups, consistent with the limitations of our jurisdiction over the matters which they raise. Four groups are concurring parties to the HPMP, specified

in Article 412, which will address curation, access issues, and mitigation of effects to archaeological sites. The Vegetation Management Plan (Article 409) will develop ways to notify Native American groups before any herbicide use and make sure the groups have access to traditional botanical gathering areas on project land. Article 417 requires the licensee to consult with Native American groups in the development of the bald eagle and osprey protection plan. Native American groups also expressed concern regarding water quality, minimum flows, riparian vegetation and effects to animal species. Conditions set forth in this **license**, as discussed later in this document, will either enhance or protect the resources of concern. The development of studies and plans to improve the water and habitat quality of Willow Creek is included in specifications of Articles 403, 405, 406, and **Section 4(e)** conditions 6 and 7.

OTHER ISSUES

Bass Lake Level Management

****14** 57. Besides responding to seasonal runoff, PG&E operates the project so that the levels of Bass lake meet the requirements of the 1909 Miller-Lux Agreement, which the Bureau of Reclamation now administers on behalf of downstream irrigation interests. PG&E proposes to work with the Bureau of Reclamation to enhance lake levels during the recreation season. The Pines Resort, the Bass Lake Homeowners Association, the North Fork Chamber of Commerce, Madera County, the Bass Lake Committee for a Higher Lake Level, and many individuals raise concerns about the negative effects of low lake levels during the summer months on recreational use and shoreline facilities.

58. During the summer recreation season, low lake levels cause some private and commercial boat docks to be out of the water, decrease the boatable surface area of the lake, and create safety hazards from exposed rocks and tree stumps. These effects increase as the lake level drops.

59. In the Supplemental EA, Commission staff estimates that during dry inflow conditions, raising instream flow for the fishery on the South Fork and the North Fork below Crane Valley dam could result in the lake level being drawn down even lower than under current operations, causing more adverse effects on recreational opportunities at Bass Lake.

60. To keep higher summer lake levels, FS condition no. 4 allows PG&E to meet a lower minimum flow in South Fork Willow Creek under dry inflow conditions. FS condition no. 4 also requires PG&E to develop an operation model for the project to better understand how instream flow releases affect the level of Bass Lake under various inflows. FS condition no. 10 would also improve recreational reservoir levels on Bass Lake by changing how PG&E draws down the reservoir to meet Miller-Lux requirements. By following FS condition 10, PG&E should be able to keep the reservoir 1.5 to 2.0 feet higher than under existing conditions on Labor Day, which would allow many private and commercial docks to remain operable later in the recreation season.

61. To provide for the effective management of lake levels at Bass Lake consistent with lake levels required under FS condition no 10 and recommendations in the Supplemental EA, I'm also including Article 416. Article 416 requires PG&E to file a lake level management plan that ***64559** includes, at a minimum, lake level variance guidelines, ongoing consultation with the BR concerning future lake level variances, and provisions to notify landowners and resort owners around Bass Lake of predicted lake levels for upcoming summer season during dry and critically dry years. To decide whether any changes to the plan are needed, the article requires PG&E to consult with interested entities to review the plan every five years.

Inclusion of Transmission Lines in New **License**

62. By order issued December 22, 1998,²² the Commission granted PG&E's applications to delete 43 transmission lines and their associated facilities from 15 of its **licenses**, including the lines included in the Crane Valley **license**. The affected transmission lines for this project are located on lands administered by the FS or BLM. The effective date of the removal of the lines from the Project No. **1354 license** is the date that PG&E receives all necessary permits from the FS or BLM, as appropriate,

for continued use of federal lands for the lines. To date, PG&E has not received the necessary permits with respect to FS or BLM lands. We therefore continue to include the transmission lines in the new **license** until the necessary authorizations are received. Ordering Paragraphs (C) and (D) below set out the procedures for the removal of the transmission lines from the new **license**.

Fish Bypass Devices

****15** 63. PG&E does not propose installing fish screens at any of the project intake structures. In its [Section 10\(j\)](#) recommendation number 12, Interior recommends the licensee develop functional design drawings for the Brown's Creek diversion of: (1) passive fish bypass facilities in the Brown's Creek Diversion flume that would return fish from the flume to the South Fork Willow Creek; and (2) design changes to the Brown's Creek Diversion intake to reduce entrainment of rainbow and brown trout into the Brown's Creek Diversion flume. The recommendation states that, following consultation with and approval by the agencies, PG&E shall file final design drawings with the Commission for formal review and subsequent construction.

64. In the Supplemental EA, Commission staff agree that fish protection at the Brown's Creek Diversion would be beneficial. This conclusion was based on information about how this diversion operates and fish population information from another watercourse with similar characteristics. However, based on the lack of site specific information, Commission staff recommend that if PG&E disagrees with the need for fish bypass facilities at the Brown's Creek diversion, PG&E consult with the resource agencies to develop and implement a study to evaluate the amount of entrainment.

65. I agree with Commission staff and Interior that the prevention of fish entrainment into the Browns Creek Diversion would provide an environmental benefit. However, I note, as did Interior in their discussion of their recommendation, that no site-specific studies have been done to show the amount of entrainment at this location.

66. Although it's possible, it is not necessarily certain that a study to determine the existence and size of the entrainment problem would exceed the cost of design and construction of a fish passage facility. I think it would not be contrary to spirit of the Interior's [Section 10\(j\)](#) recommendation to allow PG&E the option to either design and install a fish protection device under the assumption that one is needed or to conduct a site-specific study to establish the need for the facility. The study, to be filed with the Commission, would be designed and conducted in consultation with the agencies, and would incorporate agency comments on study results and agency recommendations.

67. Accordingly, Article 407 requires PG&E to design and install, in consultation with the agencies, fish protection at the Brown's Creek Diversion; or, alternatively, to perform a study to determine the extent of the entrainment problem at this location, with the understanding that the results of the study may lead to a requirement for fish protection.

CONSISTENCY WITH COMPREHENSIVE PLANS

68. [Section 10\(a\)\(2\)](#) of the FPA requires the Commission to consider the extent to which a project is consistent with federal and state comprehensive plans for improving, developing, and conserving waterways affected by the project. Under [Section 10\(a\)\(2\)](#), federal and state agencies filed 39 plans that address various resources in California. Thirteen of these plans address resources relevant to the Crane Valley Project.²³ No conflicts with the plans were found.

****16 *64560** 69. I also considered the *Water Quality Control Plan (Basin Plan), for the California Regional Water Quality Control Board Central Valley Region, the Sacramento River and San Joaquin River Basins* (CRWQCB, 1994). The SWRCB appealed the FS's Decision Notice regarding the [Section 4\(e\)](#) conditions and Finding of No Significant Impact (public notice issued December 10, 2002), on the basis that the proposed instream flows would result in temperature and dissolved oxygen levels in violation with the water quality objectives in the Basin Plan. In its appeal, the SWRCB asserts, without additional data, that the Commission and FS cannot justify a conclusion that there is no significant effect on water quality and that dissolved oxygen meets Basin Plan standards.

70. In deciding the appeal, the FS Appeal Reviewing Officer found that the Regional Forester, based on all available evidence, made a supportable decision that the subject FS conditions comply with the water quality objectives of the Basin Plan. The Reviewing Officer stated that the Crane Valley Supplemental EA provides information, analysis, and conclusions regarding compliance with the CWA and the Basin Plan, regarding water temperature and dissolved oxygen levels.

71. In the Crane Valley Supplemental EA, Commission staff and the FS conclude that the existing project currently meets Basin Plan objectives for dissolved oxygen, and indeed that the proposed project would increase dissolved oxygen levels because its minimum flow requirements will reduce the overall water temperature in the project area. Additionally, FS condition no. 5 and Article 405 requires a plan for monitoring temperatures in project-affected stream reaches. This will enable the licensee and resource agencies to quantify water temperature responses to the increased release flows and ensure compliance with water temperature objectives in the Basin Plan. The Supplemental EA concludes that the project has little effect on water quality parameters other than water temperature and dissolved oxygen, and would continue to support the designated beneficial uses SWRCB identifies in the Basin Plan. I conclude, considering the finding of the FS Appeal Reviewing Officer and the analyses and recommendations contained in the SEA, that staff's recommendations concerning instream flow and water temperature monitoring will adequately address the concerns raised and will best serve the public interest.

APPLICANT'S PLANS AND CAPABILITIES

72. In accordance with [Sections 10\(a\)\(1\) and 15\(a\)](#) of the FPA,²⁴ I have evaluated PG&E's record as a licensee with respect to the following: (1) conservation efforts; (2) compliance history and ability to comply with the new **license**; (3) safe management, operation, and maintenance of the project; (4) ability to provide efficient and reliable electric service; (5) need for power; (6) transmission service; (7) cost effectiveness of plans; and (8) actions affecting the public.

A. Conservation Efforts -- [Section 10\(a\)\(2\)](#)

****17** 73. FPA [Section 10\(a\)\(2\)](#) requires the Commission to consider the extent of electric consumption efficiency programs in the case of **license** applicants primarily engaged in the generation or sale of electric power. PG&E is such an applicant. PG&E has programs to promote cost-effective conservation and load management for residential, commercial, industrial, and agricultural customers. Through these programs, PG&E is making satisfactory efforts to conserve electricity and reduce peak hour demands.

B. Compliance History and Ability to Comply with the New **License**

74. Pursuant to FPA [Section 15\(a\)\(2\)\(A\)](#), I have reviewed PG&E's compliance with the terms and conditions of the existing **license**. I find that PG&E's overall record of making timely filings and compliance with its **license** is satisfactory.

C. Safe Management, Operation, and Maintenance of the Project -- [Section 15\(a\)\(2\)\(B\)](#)

75. I have reviewed PG&E's management, operation, and maintenance of the Crane Valley Project pursuant to the requirements of 18 C.F.R. Part 12 and the Commission's Engineering Guidelines, as well as all applicable safety requirements, such as warning signs and boat barriers, PG&E's Emergency Action Plan, and periodic Independent Consultant's Safety Inspection Reports. I conclude that the dam and other project works are safe, and I have no reason to doubt that PG&E will continue to safely manage, operate, and maintain these facilities under a new **license**.

D. Ability to Provide Efficient and Reliable Service -- [Section 15\(a\)\(2\)\(C\)](#)

76. I have reviewed PG&E's plans and its ability to operate and maintain the project in a manner most likely to provide efficient and reliable electric ***64561** service. PG&E has been operating the project in an efficient manner within the constraints of the existing **license** and is likely to continue to do so under a new **license**.

E. Need for Power -- [Section 15\(a\)\(2\)\(D\)](#)

77. The Crane Valley Project, with an installed capacity of 28.7 MW, historically generates an annual average of 100.5 gigawatt-hours (GWh) of renewable energy. To assess the need for power within the framework of restructuring energy markets brought about by deregulation, staff looked at the forecasts of energy demand and planned capacity additions for the WSCC region. For the WSCC Region as a whole, the peak demand is projected to grow at an average annual compound growth rate of 2.1 percent, and planned generation additions to meet summer capability requirements total 30,214 MW over the 2000-2009 period (WSCC, 2000). Based on this, I conclude that there is a need for power in both the short and long term. Continued operation of the Crane Valley Project will help to maintain the currently available capacity, contributing to both the near term (through 2009) and long term (beyond 2009) capacity and energy needs of PG&E, California, and the WSCC region.

****18** 78. I conclude that present and future use of the project's power, its low cost, its displacement of nonrenewable fossil-fired generation, contribution to a diversified generation mix, and the maintenance of existing capacity support a finding that the power from the Crane Valley Project will help meet a need for power in the state and region in both the short- and long-term.

F. Transmission Services -- [Section 15\(a\)\(2\)\(E\)](#)

79. The project's transmission facilities include the transmission lines, generator leads, station transformers, and buses located at the powerhouses. PG&E proposes no changes that would affect transmission facilities.

G. Cost Effectiveness of Plans -- [Section 15\(a\)\(2\)\(F\)](#)

80. I am approving PG&E's proposal and staff recommended measures to: (1) monitor erosion and carry out measures to protect cultural resource sites, reduce lake sedimentation, improving boating safety, and preserve visual quality of the lake; (2) provide minimum flows; (3) maintain target reservoir elevations; (4) implement fish and wildlife enhancement measures; (5) document cultural resources; and (7) construct recreational facilities. My review of PG&E's record as an existing licensee indicates that these plans are likely to be carried out in a cost-effective manner.

H. Actions Affecting the Public -- [Section 15\(a\)\(3\)\(A\) and \(B\)](#)

81. The Crane Valley Project generates electricity used to serve the needs of the public. PG&E also pays taxes annually to local and state governments and the project provides employment opportunities.

I. Ancillary Services

82. In analyzing public interest factors, the Commission takes into account that hydroelectric projects offer unique operational benefits to the electric utility system (ancillary benefits). These benefits include their value as almost instantaneous load-following response to dampen voltage and frequency instability on the transmission system, system-power-factor-correction through condensing operations, and a source of power available to help in quickly putting fossil-fuel based generating stations back on line following a major utility system or regional blackout.

83. Ancillary services are now mostly priced at rates that recover only the cost of providing the electric service at issue, which do not resemble the prices that would occur in competitive markets. As competitive markets for ancillary services begin to develop, the ability of hydro projects to provide ancillary services to the system will increase the benefits of the projects.

COMPREHENSIVE DEVELOPMENT AND PROJECT ECONOMICS

84. In determining whether a proposed project will be best adapted to a comprehensive plan for developing a waterway for beneficial public purposes, the Commission considers a number of public interest factors, including the economic benefits of project power.

****19** 85. Under the Commission's approach to evaluating the economics of hydropower projects, as articulated in Mead,²⁵ the Commission employs an analysis that uses current costs to compare the costs of the project and likely alternative power, with no forecasts concerning potential future inflation, escalation, or deflation beyond the **license** issuance date. The basic purpose of the Commission's economic analysis is to provide a general estimate of the potential power benefits and the costs of a project, and reasonable alternatives to project power. In making its decision, the Commission considers the project power benefits both with the applicant's proposed mitigation and enhancement measures and with the Commission's modifications and additions to the applicant's proposal. Ultimately, PG&E must make the business decision whether or not to accept the **license**.

86. To determine whether the proposed project is currently economically beneficial, staff subtracts the project's cost from the value of the project's power. As proposed by PG&E, the project would initially cost \$6,711,500 annually (\$67.26/MWh), or \$2,720,200 (\$27.26/MWh) more than the likely alternative cost of power, ***64562** which is \$3,991,300 (\$40.0/MWh).²⁶ When **licensed** in accordance with the conditions adopted herein, the project power would initially cost about \$6,779,100 (\$67.94/MWh), or \$2,787,800 (\$27.9/ MWh) more than the likely alternative cost of power.

87. Based on my review and evaluation of the project as proposed by the licensee, and with the additional protection and mitigation measures I am adopting, I conclude that operating the project in the manner required by the **license** will protect and enhance environmental resources. As mentioned earlier, conditions have been included in this **license** that are designed to ensure protection of cultural resource interests, endangered species, and water quality, as well as fish and wildlife resources. As discussed below, conditions have also been included that address other environmental resource issues.

88. The environmental measures include provisions to enhance the recreational use and management of the project area. Enhancements include additional recreational development, along with improvements and upgrades to existing facilities (Article 414, FS condition no. 11). Additional minimum flows should create recreational fishing opportunities (FS condition no. 4). For Bass Lake, higher minimum reservoir elevations will also benefit the recreating public (FS condition no. 10). In addition, shoreline management plans and water surface plans are required that would provide for improved management of the shoreline and the public's use of the Bass Lake (Article 413). As mentioned, the **license** is conditioned to require information regarding projected lake levels to be provided to stakeholder groups on an annual basis and provide for a review of guidelines regarding the Miller Lux agreement that could result in still further improvements to the Bass Lake levels (Article 416). The conditions also call for the periodic review of recreation demands (Article 415). These updates, undertaken in concert with various stakeholder groups, provide forums to seek adjustment to shoreline and recreation management as well as possible changes to project operation that may be needed to accommodate changing public demands that are likely to occur throughout the next **license** term.

****20** 89. Finally, measures have been made part of the **license** to ensure protection of sensitive plant species and riparian vegetation (Articles 409 and 410). Lastly, Article 418 provides the authority for the licensee to permit certain types of use and occupancy of project lands and waters and to convey interest in project lands and waters as long as such activities are not inconsistent with protecting the environmental values of the project.

90. I therefore find that the Crane Valley Project, with the required environmental enhancement measures, is best adapted to a comprehensive plan for the use, conservation, and development of the waterway for beneficial public purposes.

LICENSE TERM

91. Pursuant to Section 15(e) of the FPA, relicense terms shall not be less than 30 years nor more than 50 years from the date on which the **license** issued. The Commission's general policy is to establish 30-year terms for projects with little or no

redevelopment, new construction, new capacity, or environmental mitigative and enhancement measures; 40-year terms for projects with a moderate amount of such activities; and 50 year terms for projects with extensive measures.

92. Because the new **license** for the Crane Valley Project requires a moderate amount of environmental mitigation and enhancement measures, I will issue a new **license** for a 40-year term.

The Director orders:

(A) This **license** is issued to Pacific Gas and Electric Company (licensee) for a period of 40 years, effective the first day of the month in which this order is issued, to operate and maintain the Crane Valley Project No. **1354**. This **license** is subject to the terms and conditions of the Federal Power Act (FPA), which is incorporated by reference as part of this **license**, and subject to the regulations the Commission issues under the provisions of the FPA.

(B) The project consists of:

(1) All lands, to the extent of the licensee's interests in those lands, enclosed by the project boundary shown by Exhibit G filed June 28, 2001:

Exhibit G:

Drawing	FERC No.	Showing
G-1	1354 -1001	Crane Valley Project
G-2	1354 -1002	Chilkoot Reservoir and Pick-Up Ditch
G-3	1354 -1002	Bass Lake (Crane Valley Reservoir)
G-4	1354 -1003	Bass lake, Crane Valley P.H. Conduit, Access Roads and 12-kV Transmission Line
G-5	1354 -1004	Browns Creek Conduit, 12-kV Tap
G-6	1354 -1004	San Joaquin No. 3 Conduit, Access Roads, and 12-kV Transmission Line
G-7	1354 -1005	San Joaquin No. 3 Forebay and Powerhouse, Manzanita Lake, San Joaquin No.2 Conduit, 70-kV transmission Line
G-8	1354 -1006	San Joaquin No. 2 Powerhouse, Penstock and Forebay Conduits, 70-kV Transmission Line
G-9	1354 -1007	San Joaquin No. 2 Powerhouse, Penstock, and Forebay Conduits, 70-kV Transmission Line
G-10	1354 -1008	San Joaquin No.1 Conduit & Access Roads, 70-kV Transmission Line
G-11	1354 -1009	San Joaquin No. 1 Conduit, San Joaquin No.1A P.H, Corrine Lake, Wishon P.H., 70-kV Transmission Line

****21 *64563** (2) Six developments, which include five powerhouses; two storage reservoirs; four smaller impoundments (three forebays, one afterbay); and an extensive system of diversions, conduits, and access roads

Crane Valley development consists of: (1) Chilkoot Lake pick-up ditch, a 0.70-mile-long rock channel, 3 feet to 5 feet wide; (2) Chilkoot dam, a 110-foot-long, 8-foot-high rock-fill structure with a 20-inch-diameter concrete-lined steel outlet pipe; (3) Chilkoot Lake (Chilkoot reservoir), with a surface area of 57 acres at a normal maximum water surface elevation of 7,497.2 feet National Geodetic Vertical Datum (NGVD), 310 acre-feet of gross storage, and 308 acre-feet of usable storage; (4) Crane Valley dam, a 1,880-foot-long, 145-foot-high combination hydraulic fill and rock-fill structure; (5) Crane Valley spillway, 190 feet long and 15 feet deep with flashboards and two radial gates; (6) Crane Valley reservoir (Bass Lake), with a surface area of 1,165 acres at a normal maximum water surface elevation of 3,376.8 feet NGVD, 45,410 acre-feet of gross storage, and 45,410 acre-feet of useable storage; (7) outlet works consisting of a vertical intake tower with four gates, a 200-foot-long unlined tunnel, a 550-foot-long concrete-lined tunnel (4 feet high, 3 feet wide), a 48-inch-diameter steel pipe (approximately 115 feet long), and a 42-inch-diameter steel penstock (approximately 80 feet long); (8) Crane Valley powerhouse, with one turbine-generator unit having a hydraulic capacity of 160 cubic feet per second (cfs) and a normal operating capacity of 0.9 MW under a design net head of 69 feet; and (9) appurtenant facilities.

Browns Creek development consists of: (1) Browns Creek diversion dam, consisting of two concrete wall arch sections, the first being 86 feet long and 7 feet high with a 25-foot-long spillway, and the second being approximately 19 feet long and 6 feet high; (2) outlet works consisting of two slide gates (each 3.25 feet wide, 3 feet high), a concrete box flume, and a sandtrap structure; and (3) Browns Creek conduit, a 2.58-mile-long combination of ditches (1.93 miles long), flumes (0.59 miles long), and pipe (0.06 miles long), approximately 3.5 feet deep and varying in width from 6 feet to 10 feet.

San Joaquin No. 3 development consists of: (1) San Joaquin No. 3 conduit, a 3.58-mile-long combination of partially lined ditch (2.6 miles long, 4 feet deep, varying in width from 12.5 feet to 13.5 feet), steel flume (0.75 miles long, 4.8 feet deep, 6 feet wide), and tunnel (0.23 miles long, 7 feet high, 5 feet wide); (2) San Joaquin No. 3 forebay dam, a 450-foot-long, 40-foot-high earth embankment with a 42-foot-long bypass spillway; (3) an impoundment (forebay) with a surface area of 3 acres at a normal maximum water surface elevation of 3,218.8 feet NGVD, 20 acre-feet of gross storage, and 19 acre-feet of useable storage; (4) outlet works consisting of a tunnel intake structure with a 41-foot-long, 6-foot-deep spillway, a 290-foot-long tunnel (approximately 5.75 feet high, 5 feet wide), and a 3,028-foot-long mortar-lined steel penstock (varying in diameter from 60 inches to 52 inches); (5) San Joaquin No. powerhouse, with one turbine-generator unit having a hydraulic capacity of 150 cfs and a normal operating capacity of 4.2 MW ~~*64564~~ under a design net head of 378 feet (the Commission rates this powerhouse at 4.00 MW, based on a turbine rating of 8,000 hp (5,966 kW), and a generator rating of 5,000 kVA with a 0.8 power factor (4,000 kW); (6) Manzanita Lake dam (San Joaquin No. 3 afterbay dam), a 210-foot-long, 30-foot-high concrete arch dam with a 30-foot-long spillway and four slide gates (each 3 feet wide, 4 feet high); (7) Manzanita Lake (San Joaquin No. 3 afterbay), with a surface area of 26 acres at a normal maximum water surface elevation of 2,817.7 feet NGVD, 168 acre-feet of gross storage, and approximately 164 acre-feet of useable storage; and (8) appurtenant facilities.

****22** San Joaquin No. 2 development consists of: (1) San Joaquin No. 2 conduit, a 2.91-mile-long combination of concrete-lined ditch (1.24 miles long, rectangular 5 feet deep and 6 feet wide, trapezoidal 5.5 feet deep with a bottom width of 2.5 feet and a top width of 13.5 feet), metal flume (0.53 mile long, varying in depth from 6 feet to 9.5 feet), tunnel (1.12 miles long, 7 feet high, 6 feet wide), and reinforced concrete pipe (0.02 miles long, 84 inches in diameter) with a 58-foot-wide concrete spill channel; (2) San Joaquin No. 2 forebay dam, a 186-foot-long, 26-foot-high mortared masonry arch dam with a 60-inch-diameter slide gate; (3) an impoundment (forebay) with a surface area of 1 acre at a normal maximum water surface elevation of 2,783.0 feet NGVD, 11 acre-feet of gross storage, and 11 acre-feet of useable storage; (4) a 3,415-foot-long concrete mortar-lined steel penstock (varying in diameter from 60 inches to 48 inches) protected by two stand pipes (one 19 feet high and 10 inches in diameter 5 feet downstream of intake, the other 37.5 feet high and 48 inches in diameter 1,790 feet downstream of intake); (5) San Joaquin No. 2 powerhouse, with one turbine-generator unit having a hydraulic capacity of 150 cfs and a normal operating capacity of 3.2 MW under a design net head of 292 feet (the Commission rates this powerhouse at 2.88 MW, based on a turbine rating of 5,250 hp (3,915 kW) and a generator rating of 3,600 kVA with a 0.8 power factor (2,880 kW); (6) a 75-foot-long, 70-kilovolt (kV) tap connecting San Joaquin No. 2 powerhouse with the (non-project) transmission line between San Joaquin No. 3 powerhouse and Wishon powerhouse; and (7) appurtenant facilities.

San Joaquin No. 1A development consists of: (1) the South Fork diversion dam, a 138-foot-long, 25-foot-high concrete gravity dam with a 75-foot-long overflow spillway and two 6-foot-long auxiliary spillways; (2) the North Fork diversion dam, an 86.5-foot-long, 8-foot-high concrete gravity dam with an overflow spillway along its entire length; (3) San Joaquin No. 1 conduit, a 4.83-mile-long combination of partially lined concrete ditch (2.74 miles long, averaging approximately 5 feet deep with a bottom width of 9 feet and a top width of 13 feet), metal flume (0.14 mile long, approximately 6 feet deep and 6 feet wide), and lined and unlined tunnel (1.95 miles long, varying in height from 6 feet to 9 feet and varying in width from 5 feet to 6 feet); (4) a 975-foot-long, 60-inch-diameter steel penstock; (5) San Joaquin No. 1A powerhouse, with one turbine-generator unit having a hydraulic capacity of 140 cfs and a normal operating capacity of 0.4 MW under a design net head of 40 feet; (6) a 0.80-mile-long, 12-kV transmission line connecting San Joaquin No. 1A powerhouse with Wishon powerhouse; and (7) appurtenant facilities.

Wishon development consists of: (1) Wishon forebay dam, a 1,552-foot-long, 15-foot-high earth embankment with a concrete overflow spillway and an intake structure with two 60-inch-diameter slide gates; (2) Corrine Lake (Wishon forebay), with a surface area of 7 acres at a normal maximum water surface elevation of 2,401.0 feet NGVD, 69 acre-feet of gross storage, and 69 acre-feet of useable storage; (3) two 4,300-foot-long penstocks, each with a riveted steel section (varying in diameter from 40 inches to 44 inches) and a lap-welded steel section (varying in diameter from 34 inches to 36 inches), and each protected by a stand pipe approximately 300 feet downstream from the intake structure; (4) Wishon powerhouse, with four turbine-generator units, each having a hydraulic capacity of 190 cfs and a normal operating capacity of 5.0 MW under a design net head of 1,305 feet, yielding a total hydraulic capacity of 760 cfs and a normal operating capacity of 20.0 MW (the Commission rates each unit at 4.00 MW, based on a turbine rating of 7,000 hp [5,220 kW] and a generator rating of 5,000 kVA with a 0.8 power factor [4,000 kW]). This yields a total powerhouse rating of 16.00 MW; and (5) appurtenant facilities. A 20-mile-long, 70-kV transmission line connecting Wishon powerhouse with Coppermine substation was found to be non-jurisdictional and will be excluded from the Crane Valley Project boundary pending FS final decision on the special-use permit.

****23** The project works generally described above are more specifically shown and described by those portions of Exhibits A and F shown below:

Exhibit A: The following sections of exhibit A filed on June 28, 2001:

Pages A-1 to Page A-19

Exhibit F: The following sections of exhibit F filed on June 28, 2001:

Drawing	FERC No.	Showing
F-1	1354 -1010	Plan, Profile, and Sections--Chilkoot Dam
F-2	1354 -1011	Plan, Elevation, and Section--Browns Creek Diversion Dams
F-3	1354 -1012	Details--Browns Creek Conduit
F-4	1354 -1013	Plan, Elevation, and Section--Crane Valley Dam
F-5	1354 -1014	Plan, Profile, and Sections--Crane Valley Spillway
F-6	1354 -1015	Plan, Profile, and Sections--Crane Valley Tunnel and Penstock
F-7	1354 -1016	Plan and Sections--Crane Valley Powerhouse
F-8	1354 -1017	Wasteway and Head Gate--San Joaquin No. 3 Conduit

F-9	1354 -1018	Details--San Joaquin No. 3 Conduit
F-10	1354 -1019	Plans and Sections--San Joaquin No. 3 Forebay
F-11	1354 -1020	Details--San Joaquin No. 3 Forebay
F-12	1354 -1021	Profile and Details--San Joaquin No. 3 Penstock
F-13	1354 -1022	Plan and Sections--San Joaquin No. 3 Powerhouse
F-14	1354 -1023	Plan, Elevation, and Sections--Manzanita Lake Dam
F-15	1354 -1024	Details--San Joaquin No. 2 Conduit
F-16	1354 -1025	Plan, Elevation, and Details--San Joaquin No. 2 Forebay Dam
F-17	1354 -1026	Profile and Details--San Joaquin No. 2 Penstock
F-18	1354 -1027	Plan and Sections--San Joaquin No. 2 Powerhouse
F-19	1354 -1028	Plan, Elevation, and Sections--South Fork Diversion Dam
F-20	1354 -1029	Plan, Elevation, and Sections--North Fork Diversion Dam
F-21	1354 -1030	Radial Gate and Spill Structures--San Joaquin No. 1 Conduit
F-22	1354 -1031	Details--San Joaquin No. 1 Conduit
F-23	1354 -1032	Details--San Joaquin No. 1 Conduit
F-24	1354 -1033	Plan and Profiles--San Joaquin No. 1A Penstock
F-25	1354 -1034	Details--San Joaquin No. 1A Penstock
F-26	1354 -1035	Plans and Sections--San Joaquin No. 1A Powerhouse
F-27	1354 -1036	Plan and Section--Wishon Forebay
F-28	1354 -1037	Details--Wishon Forebay
F-29	1354 -1038	Profile and Penstocks--Wishon Penstocks
F-30	1354 -1039	Plan and Sections--Wishon Powerhouse

****24 *64566** (3) All of the structures, fixtures, equipment, or facilities used to operate or maintain the project and located within the project boundary, all portable property that may be employed in connection with the project and located within or outside the project boundary, and all riparian and other rights that are necessary or appropriate in the operation or maintenance of the project.

(C) Within 60 days of the date the **license** amendment approved by the order issued at [85 FERC ¶ 61,411 \(1998\)](#) becomes effective, the licensee shall file revised exhibits A, F, and G, showing and describing the facilities as set forth in the applications for amendment of **license** as approved therein.

(D) Within 60 days of the date the **license** amendment approved by the order issued at [85 FERC ¶ 61,411 \(1998\)](#) becomes effective, the licensee shall file a statement of the amount of federal land occupied by the project, so that the Commission can amend the appropriate **license** articles regarding payment for the use of federal lands.

(E) The Exhibits A, F, and G described above are approved and made part of the **license**.

(F) This **license** is subject to the conditions submitted by the Forest Service under Section 4(e) of the FPA, as those conditions are set forth in the appendix to this order.

(G) This **license** is subject to the articles set forth in Form L-1 (October 1975), entitled "Terms and Conditions of **License** for Constructed Major Project Affecting Lands of the United States," 54 FPC 1792,1799 (October, 1975), and the following additional articles:

Article 201. The licensee shall pay the United States an annual charge, effective as of the first day of the month in which this **license** is issued, for the purpose of:

a. Reimbursing the United States for the Commission's administrative costs, pursuant to Part I of the Federal Power Act, as determined in accordance with the provisions of the Commission's regulations in effect from time to time. The authorized installed capacity for that purpose is 28.7 megawatts (MW).

b. Recompensing the United States for the use, occupancy, and enjoyment of 738.11 acres of its lands, other than for the use of transmission lines.

Article 202. Within 45 days of the date of issuance of this order, the licensee shall file three original sets of aperture cards of the approved exhibit drawings, except for exhibit G. The drawings must be reproduced on silver or gelatin 35 mm microfilm. All microfilm must be mounted on type D (3-4# x 7-##) aperture cards.

Prior to microfilming, the FERC Drawing Number shall be shown in the margin below the title block of the approved drawing. After mounting, the FERC Drawing Number must be typed on the upper right corner of each aperture card. Additionally, the project number, FERC exhibit (e.g., F-1, G-1), drawing title, and date of this **license** must be typed on the upper left corner of each aperture card.

****25** Two sets of the aperture cards shall be filed with the Secretary of the Commission, ATTN: OEP/Division of Hydropower Administration and Compliance. The third set of aperture cards shall be filed with the Commission's San Francisco Regional Office.

Article 203. Pursuant to [Section 10\(d\)](#) of the Federal Power Act, a specified reasonable rate of return upon the net investment in the project shall be used for determining surplus earnings of the project for the establishment and maintenance of amortization reserves. The licensee shall set aside in a project amortization reserve account at the end of each fiscal year one-half of the project surplus earnings, if any, in excess of the specified rate of return per annum on the net investment.

To the extent that there is a deficiency of project earnings below the specified rate of return per annum for any fiscal year, the licensee shall deduct the amount of that deficiency from the amount of any surplus earnings subsequently accumulated, until absorbed. The licensee shall set ***64567** aside one-half of the remaining surplus earnings, if any, cumulatively computed, in the project amortization reserve account. The licensee shall maintain the amounts established in the project amortization reserve account until further order of the Commission.

The specified reasonable rate of return used in computing amortization reserves shall be calculated annually based on current capital ratios developed from an average of 13 monthly balances of amounts properly included in the licensee's long-term debt and proprietary capital accounts as listed in the Commission's Uniform System of Accounts. The cost rate for such ratios shall be the weighted average cost of long-term debt and preferred stock for the year, and the cost of common equity shall be the

interest rate on 10-year government bonds (reported as the Treasury Department's 10-year constant maturity series) computed on the monthly average for the year in question plus 4 percentage points (400 basis points).

Article 204. If the licensee's project was directly benefitted by the construction work of another licensee, a permittee, or the United States on a storage reservoir or other headwater improvement during the term of the original **license** (including extensions of that term by annual **licenses**), and if those headwater benefits were not previously assessed and reimbursed to the owner of the headwater improvement, the licensee shall reimburse the owner of the headwater improvement for those benefits, at such time as they are assessed, in the same manner as for benefits received during the term of this new **license**. The benefits will be assessed in accordance with Part 11, Subpart B, of the Commission's regulations.

Article 301. Within 90 days of completion of construction of the facilities directed by any article of this **license**, the licensee shall file, for Commission approval, revised exhibits A, F, and G to describe and show the project facilities as-built.

****26 Article 302.** Within 90 days of completion of the improvements to FS-managed recreational sites adjacent to Bass Lake as specified in the recreation plan required under article 414 of this **license**, the licensee shall file revised exhibit F and G drawings with the Commission for approval. The exhibits shall show all site improvements and include drawings of a revised project boundary. The boundary shall include the new Forks Day Use Area, the new Willow Cove Picnic Area, the existing FS day-use areas and campgrounds along Bass Lake, and certain PG&E-owned shoreline lands on the southern shore of Bass Lake, consistent with the June 1997 Phase I agreement and with FS condition no. 11. The project boundary detailed in the exhibits shall include adequate lands to accommodate existing and future recreational needs for the duration of the **license**.

Article 401.

(a) Requirement to File Plans for Commission Approval

Various conditions of this **license** found in the U.S. Forest Service's (FS's) final Section 4(e) conditions (appendix A) require the licensee to implement measures without filing the measures with the Commission for approval; implement specific measures without prior Commission approval; and file the results of monitoring studies and surveys, without filing the results with the Commission. Each such measure, plan, and report shall also be submitted to the Commission. These plans are listed below.

Condition no.	Plan Name	Due Date from License Issuance
4	Instream Flow Measurement Plan	One Year
5	Stream Temperature Monitoring Plan	One Year
6	Willow Creek Native Species Management Plan	One Year
7	Rex Ranch Flow Study Plan	One Year
8	Stream Channel Geomorphology and Sediment Management Plan	One Year
14	Biological Evaluation	As needed
15	Bald eagle and raptor management plans	One Year
16	Vegetation management plan	One Year
18	Noxious weeds management plan	One Year

19	Riparian area monitoring plan	One Year
24	Fire Suppression and Response Plan	One Year
33	Visual resource plan	One Year
39	Transportation system management plan	One Year
40	Hazardous substance plan	One Year

****27** The licensee shall submit to the Commission documentation of its consultation, copies of comments and recommendations made in connection with each plan, and a description of how each plan accommodates the comments and recommendations. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information. The Commission reserves the right to make changes to any plan submitted. Upon Commission ***64568** approval, each plan becomes a requirement of the **license**, and the licensee shall implement the plan, or after notice and opportunity for hearing, changes in project operations or facilities that may be deemed necessary based upon data generated by the plans.

(b) Requirement to Notify Commission of Planned and Unplanned Deviations from **License** Requirements

FS condition no. 4 in appendix A specifies interim minimum flows from the Browns Creek diversion dam that would be modified based on the development and implementation of a water balance model. The Commission shall be notified of any modification to minimum flows that could result from implementation of the water balance model. FS condition no. 4 also would allow the licensee to temporarily modify project operations under certain conditions. The Commission shall be notified prior to implementing such modifications, if possible, or in the event of an emergency, as soon as possible, but no later than 10 days after each such incident.

Article 402. Bass Lake Erosion Control Plan. The licensee shall implement the Bass Lake Erosion Control Plan (1985), and shall coordinate implementation of the plan with the Historic Properties Management Plan required under article 412.

Article 403. Sediment Management in Stream Reaches. The licensee shall file, within 1 year of **license** issuance, with the Commission, for approval, a stream channel geomorphology and sediment management plan to protect water quality and fisheries in the North Fork Willow Creek, South Fork Willow Creek, and Willow Creek. The plan, at a minimum, shall incorporate the plan developed under the U.S. Forest Service (FS) condition no. 8 addressing stream channel geomorphology, sediment transport, and channel maintenance and shall demonstrate compliance with the Sierra National Forest Land and Resource Management Plan.

The plan shall, at a minimum, include:

(1) a description of existing sediment management procedures and options for sediment management in project facilities and for channel maintenance in project-affected reaches that ensure that fines are not deposited in harmful quantities in sensitive habitat areas and that coordinates disposal of sediments with the resource agencies;

(2) a provision to repair the Browns Creek conduit spill channel in a manner that would not exacerbate erosion on the slope below the channel and to monitor the condition of the channel and make remedial repair as needed over the term of the **license**;

****28** (3) the elimination of flushing of accumulated sediments from Browns Creek conduit sand trap between June and October;

(4) specific measures to manage sediment buildup behind Manzanita Lake to ensure access to the lake from existing roads for the purposes of stocking trout into sufficiently deep water;

(5) identification of the rate at which fines and organics accumulate in the bypassed reaches and the frequency of larger than minimum releases required to remove those accumulations; and

(6) identification of the frequency of flows, annually or less frequent, required in prolonged dry periods to clear fine and organic materials that would be detrimental, if sufficient accumulation occurs.

The plan shall be developed in consultation with the U.S. Fish and Wildlife Service, the California Department of Fish and Game, the FS, and the State Water Resources Control Board. The licensee shall include with the stream channel geomorphology and sediment management plan that it files with the Commission documentation of agency consultation, copies of comments and recommendations made in connection with the plan, and a description of how the plan accommodates the comments and recommendations. The licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the proposed plan. The plan shall not be implemented until the licensee is notified that the plan is approved. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission.

Article 404. Releases from Chilkoot Lake. The licensee shall operate the project such that release flows from Chilkoot Lake shall not exceed 15 cubic feet per second, in order to reduce erosion and protect water quality and riparian habitat downstream of Chilkoot Lake.

Releases from Chilkoot Lake may be temporarily modified if required by operating emergencies beyond the control of the licensee, and for short periods upon mutual agreement between the licensee, the U.S. Fish and Wildlife Service, U.S. Forest Service, and the California Department of Fish and Game. If the flow is so modified, the licensee shall notify the Commission as soon as possible, but no later than 10 days after each such incident, and shall provide the reason for the modified flow.

Article 405. Water Temperature Monitoring. The licensee shall, within 1 year of **license** issuance, file for Commission approval, a water temperature monitoring plan for monitoring temperatures in project-affected stream reaches from May 1 to *64569 October 31 for a 6-year period after **license** issuance. The plan shall include, at a minimum, the plan developed under U.S. Forest Service condition no. 5, addressing water temperature in the stream reaches downstream of project dams. The licensee shall file annual monitoring results with the Commission no later than the end of the calendar year and shall file with the Commission a 6-year summary report upon the completion of the monitoring.

****29** The plan shall be developed in consultation with the U.S. Fish and Wildlife Service, the California Department of Fish and Game, and the State Water Resources Control Board. Water temperature monitoring shall be limited to years 2 through 7 of the new **license**. The licensee shall include with the water temperature monitoring plan that it files with the Commission documentation of agency consultation, copies of comments and recommendations made in connection with the plan, and a description of how the plan accommodates the comments and recommendations. The licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the proposed plan. The plan shall not be implemented until the licensee is notified that the plan is approved. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission. Based on the results of the water temperature monitoring, the Commission reserves the right to require changes to project structures or operation deemed necessary, after notice and opportunity for hearing.

Article 406. Canal/Flume Maintenance and Operations Plan. The licensee shall, within 1 year of **license** issuance, file for Commission approval, a canal/flume maintenance and operations plan to minimize or eliminate the potential effects of canal/flume maintenance activities on water quality in the North Fork Willow Creek, South Fork Willow Creek, and Willow Creek. The plan shall be consistent with the provisions of the sediment management plan required under article 403.

The licensee shall develop the plan in consultation with the U.S. Fish and Wildlife Service and the U.S. Forest Service. The licensee shall include with the canal/flume maintenance and operations plan that it files with the Commission documentation of agency consultation, copies of comments and recommendations made in connection with the plan, and a description of how the plan accommodates the comments and recommendations. The licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the proposed plan as well changes to project structures or operation deemed necessary after notice and opportunity for hearing. The plan shall not be implemented until the licensee is notified that the plan is approved. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission.

Article 407. Fish Bypass Facility. Within 6 months of **license** issuance, the licensee shall file, for Commission approval, design drawings of passive fish bypass facilities for the Browns Creek diversion canal, or changes to the Browns Creek Diversion intake, or both, to reduce entrainment of brown and rainbow trout. The licensee shall develop the design drawings and an implementation schedule in consultation with the U.S. Forest Service (FS), the U.S. Fish and Wildlife Service (FWS), and the California Department of Fish and Game (CDFG). The filing shall include agency comments proposed changes and schedule. Upon Commission approval, including any changes that the Commission may require, the licensee shall construct the facility in accordance with the approved drawings and schedule.

****30** In the alternative, should the licensee disagree with the need for fish bypass facilities at the Browns Creek Diversion, the licensee shall, within 6 months of **license** issuance, file for Commission approval a study plan, developed in consultation with the FS, FWS, and CDFG, for a study to evaluate the magnitude of entrainment at the Browns Creek Diversion. Based upon study results, the licensee shall develop recommendations for fish protection at the Brown's Creek Diversion. If the licensee concludes that fish protection is not needed, or not needed at this time, the licensee shall provide with its report, the comments of the FS, FWS, and CDFG on this conclusion. If the study indicates the need for fish protection facilities, then the licensee shall, within six months of the conclusion of the study, file design drawings and a schedule for implementation of fish passage facilities, as described above. The Commission reserves the right to require fish bypass facilities deemed necessary after notice and opportunity for hearing.

Article 408. Reservation of Authority-Fishways. Authority is reserved by the Commission to require the licensee to construct, operate, and maintain fishways for brown and rainbow trout and any other fish to be managed, enhanced, protected, or restored to the San Joaquin River Basin during the term of the **license** and including measures to determine, ensure, or improve the effectiveness of such fishway, as may be prescribed by the Secretary of the Interior pursuant to Section 18 of the Federal Power Act, as amended.

Article 409. Vegetation Management. The licensee shall file, within 1 year of **license** issuance, a ***64570** comprehensive vegetation management plan to manage vegetation in the project vicinity, to control noxious weeds, protect the valley elderberry longhorn beetle, and to monitor project effects on riparian vegetation. At a minimum, the plan shall incorporate the plans developed under U.S. Forest Service (FS) conditions no. 16, 18, and 19 dealing with vegetation management, noxious weed control, and riparian vegetation and shall be consistent with the Sierra National Forest Land and Resources Management Plan. The licensee shall coordinate the development of the riparian vegetation component of this plan with the native aquatic species monitoring plan required in FS condition no. 19 and the sediment management plan required in article 403. The plan shall also be consistent with the Historic Properties Management Plan required in article 412.

The plan shall, at a minimum, include:

- (1) a description of vegetation management and maintenance goals, objectives, and constraints; resource protection needs; treatment options, recommendations; and enhancement opportunities;
- (2) use of the Integrated Pest Management approach currently employed by the licensee to incorporate best management practices and specific recommendations for protection of soil, water, vegetation, wildlife, and cultural resources to be applied throughout the project areas.
- **31** (3) a description of measures to manage noxious weeds, including but not limited to, surveys, proactive measures (e.g., washing down construction equipment, certifying fill materials), monitoring, treatment, and education;
- (4) a methodology to monitor the age class, structural diversity, composition, and cover of riparian vegetation;
- (5) provision of a monitoring report including an assessment of whether the above factors are within the range of natural variability for the vegetative community and are properly functioning;
- (6) a procedure for notifying the local Native American groups prior to using herbicides;
- (7) a description of measures to ensure tribal access to project land for tribal use of traditional botanical gathering areas;
- (8) a schedule for implementation of the plan and for filing the monitoring results for riparian vegetation and noxious weed control with the Commission; and
- (9) a description of measures to protect the valley elderberry longhorn beetle, consistent with the current U.S. Fish and Wildlife Service "Conservation Guidelines for the Valley Elderberry Longhorn Beetle."

In addition to the FS, the licensee shall develop the vegetation management plan in consultation with the U.S. Fish and Wildlife Service, the California Department of Fish and Game, the State Water Resource Control Board, local Native American Tribes, and to the extent practicable, local homeowners and resort operators, and the Sierra-San Joaquin Noxious Weed Alliance.

The licensee shall include with the vegetation management plan that it files with the Commission documentation of agency consultation, copies of comments and recommendations made in connection with the plan, and a description of how the plan accommodates the comments and recommendations. The licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the proposed vegetation management plan. The licensee shall not implement any ground-disturbing activities until the licensee is notified that the plan is approved. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission. Based on the results of the monitoring, the Commission reserves the right to require changes to project structures or operation deemed necessary after notice and opportunity for hearing.

Article 410. Rare Plant Surveys. The licensee shall complete supplemental rare plant surveys in the vicinity of Willow Cove during the field season prior to the reconstruction of the day-use recreation area at Willow Cove. The licensee shall consult with the U.S. Forest Service (FS) regarding development of appropriate protection measures, such as flagging or protective fencing. Survey results and protection measures, including documentation of agency consultation, shall be filed with the Commission

for approval. Upon Commission approval, the licensee shall implement protection measures, including any changes required by the Commission.

****32 Article 411. *Reservation of Authority-Endangered Species.*** The Commission reserves its authority to require the licensee to take whatever action the Commission deems necessary as a result of a biological opinion from the FWS on the effects of the Crane Valley Project on bald eagles and the Valley elderberry longhorn beetles and their critical habitat, including, as appropriate, any reasonable and prudent alternatives, reasonable and prudent measures to minimize incidental take, and conservation recommendations.

Article 412. *Historic Properties.* The licensee shall implement the “Programmatic Agreement Among the Federal Energy Regulatory Commission, the U.S. Forest Service, the Advisory Council on Historic Preservation, and the California State Historic Preservation Officer for Managing Historic *64571 Properties That May Be Affected by a License Issuing to Pacific Gas and Electric Company for the Continued Operation of the Crane Valley Hydroelectric Power Project in Madera County, California (FERC No. 1354),” executed on December 13, 2002, including but not limited to the final Historic Properties Management Plan (HPMP) for the project. The licensee shall file, for Commission approval, the final HPMP within 1 year of license issuance. The licensee shall develop the final HPMP in consultation with the programmatic agreement (PA) signatories and the concurring parties to the PA, including the Mono Nation, the Native Earth Foundation, the North Fork Rancheria of Mono Indians of California, and the Sierra Mono Museum. In the event that the PA is terminated, the licensee shall implement the provisions of its approved HPMP. The Commission reserves the authority to require changes to the HPMP at any time during the term of the license. If the PA is terminated prior to Commission approval of the HPMP, the licensee shall obtain approval of the HPMP before engaging in any ground-disturbing activities or taking any other action that may affect any historic properties within the project's area of potential effects.

Article 413. *Updates to Bass Lake Management Plan.* The licensee shall file with the Commission, at 10-year intervals, beginning September 30, 2009, updates to its Bass Lake Shoreline and Water Surface Management Plan (1999), including a report of how the plan's short-term and long-term goals and objectives are being achieved to reduce conflicts among recreational uses, reduce erosion and other environmental effects, and to improve the quality of recreation use on Bass Lake.

The updates shall also include a report of meetings with the stakeholders, including U.S. Forest Service, U.S. Fish and Wildlife Service, U.S. Bureau of Reclamation, California Department of Fish and Game, Madera County, Madera Irrigation District, and, to the extent practicable, the Pines Resort, the Bass Lake Homeowners Association, the North Fork Chamber of Commerce, the Bass Lake Committee for a Higher Lake Level, and other Bass Lake interest groups; a description of the effectiveness of specific measures used to protect the scenic, environmental, and recreational benefits of Bass Lake; records of recreational use monitoring that have occurred during the 10-year period; and a description of any proposed changes to the plan.

****33** The licensee shall include with the updates to the plan that it files with the Commission documentation of agency consultation with the above-listed agencies, copies of comments and recommendations made in connection with the plan, and a description of how the plan accommodates any comments and recommendations. The licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information. The Commission reserves the right to require changes to the plan based on the reports, after notice and opportunity for hearing.

Article 414. *Recreational Facilities.* The licensee shall, within 1 year of new license issuance, file for Commission approval, a recreation plan for the enhancement of the public use of project's recreational resources. At a minimum, the plan shall incorporate the provisions, guidelines, and implementation schedule for recreation facility improvements included in U.S. Forest Service (FS) condition no. 11. The recreation plan also shall be consistent with the July 1997 Phase 1 Agreement of the Crane Valley Project Committee, the licensee's Shoreline and Water Surface Management Plan (1999), and the Historic Properties Management Plan (article 412).

In addition, the plan shall include:

- (1) site drawings and development plans for each of the recreational enhancements included in the Final Recreation Agreement with FS as described in FS condition 11;
- (2) site drawings and development plans for other recreational enhancements including: (a) improvements to increase line-of-sight at the intersection of Dam Road and County Road 222; (b) a bike path around Bass Lake; (c) barrier-free fishing piers; and (d) public toilet facilities at Sheriff's Tower;
- (3) an implementation schedule for the recreational enhancements identified in items (1) and (2);
- (4) a provision and schedule to amend project boundaries to include the recreational enhancements identified in items (1) and (2) within the project boundary;
- (5) final estimate of construction and O&M costs and funding sources for the proposed enhancements identified in items (1) and (2);
- (6) provisions for maintenance at all existing and proposed project-related recreational facilities;
- (7) method for conducting recreational use monitoring studies required under Article 415; and
- (8) provisions to update the recreation plan as needed based upon recreational monitoring results.

The licensee shall develop the recreation plan in consultation with the U.S. Forest Service, U.S. Fish and Wildlife Service, U.S. Bureau of Reclamation, California Department of Fish and Game, Madera County, Madera Irrigation District, and, to the extent practicable, the Pines Resort, the Bass Lake Homeowners Association, the North *64572 Fork Chamber of Commerce, the Bass Lake Committee for a Higher Lake Level, local Native American tribes, and other Bass Lake interest groups. The licensee shall include with the recreation plan that it files with the Commission documentation of agency consultation, copies of comments and recommendations made in connection with the plan, and a description of how the plan accommodates the comments and recommendations. The licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

****34** The Commission reserves the right to require changes to the proposed plan. The licensee shall not implement any ground-disturbing activities until the licensee is notified that the plan is approved. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission.

Article 415. Recreational Use Monitoring. The licensee shall develop, and include as part of the recreation plan required under article 414, a method for recreational use monitoring. The method shall be adequate to provide estimates of total recreational use, recreational use by activity, and assessments of recreational issues. The licensee shall conduct recreational use monitoring studies in accordance with the approved method and file the monitoring results with the Commission on April 1 every sixth year in conjunction with its submission of the project's FERC Form No. 80 report, for monitoring data compiled during the previous calendar year. At a minimum, the recreational use monitoring reports shall incorporate the content and frequency included in FS condition no. 12. Based on the results of the monitoring studies, the Commission reserves the right to require changes to the recreation plan after notice and opportunity for hearing.

Article 416. Bass Lake Level Management Plan. The licensee shall, within 1 year of new **license** issuance, file for Commission approval, a plan to manage lake levels at Bass Lake consistent with U.S. Forest Service (FS) condition no. 10. At a minimum, the plan shall include:

(1) Documentation of its consultation with the U.S. Forest Service, U.S. Fish and Wildlife Service, U.S. Bureau of Reclamation, California Department of Fish and Game, Madera County, Madera Irrigation District, and, to the extent practicable, the Pines Resort, the Bass Lake Homeowners Association, the North Fork Chamber of Commerce, the Bass Lake Committee for a Higher Lake Level, and other Bass Lake interest groups, regarding the development of final variance guidelines to provide a means to maintain higher lake levels in most years.

(2) A copy of the final variance guidelines developed under item no. 1.

(3) Provisions for the licensee to continue to consult with the BR regarding the possibility of future variances, from the Miller-Lux agreement and whenever possible, to schedule annual project maintenance outages so as to keep Bass Lake as full as possible during summer and early fall.

(4) Provisions to, during dry and critically dry years, when full pond level cannot be achieved, inform landowners and resort operators around Bass Lake of the predicted lake levels for the upcoming summer season by May 1st.

(5) Provisions to conduct a review of the Bass Lake Level Management Plan, in consultation with the U.S. Forest Service, U.S. Fish and Wildlife Service, U.S. Bureau of Reclamation, California Department of Fish and Game, Madera County, Madera Irrigation District, and, to the extent practicable, the Pines Resort, the Bass Lake Homeowners Association, the North Fork Chamber of Commerce, the Bass Lake Committee for a Higher Lake Level, and other Bass Lake interest groups, every five years from the date of the Commission's approval of the plan, to determine if any changes to the plan are needed to address lake level management at the project. These provisions shall include, but are not limited to, criteria, objectives, and methodologies for the plan's review; a plan and schedule for the submission to the Commission of the review results, including any recommended revisions to the plan, and documentation of consultation with the above-listed entities on the results.

****35** Documentation of the licensee's consultation with the above-listed entities, shall include copies of comments and recommendations made in connection with the periodic reviews, and a description of how the review results accommodates any comments and recommendations. The licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations of the review results before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information. Based on information in the review results, the Commission reserves the right to require changes to the plan or adjustments to lake levels, after notice and opportunity for hearing.

The licensee shall develop the Bass Lake Level Management Plan in consultation with the U.S. Forest Service, U.S. Fish and Wildlife Service, U.S. Bureau of Reclamation, California Department of Fish and Game, Madera County, Madera Irrigation District, and, to the extent practicable, the Pines Resort, the Bass Lake Homeowners Association, the North Fork Chamber of Commerce, the Bass Lake Committee for a Higher Lake Level, and other Bass Lake interest groups. The licensee shall include with the lake level management plan that it files with the Commission documentation of agency consultation, copies of comments and recommendations ***64573** made in connection with the plan, and a description of how the plan accommodates the comments and recommendations. The licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons.

The Commission reserves the right to require changes to the proposed plan. Upon Commission approval, the licensee shall implement the plan, including any changes.

Article 417. Bald Eagle and Raptor Management. The bald eagle and raptor management plan required by U.S. Forest Service condition no. 15 shall be prepared after consultation with local Native American Tribes, and to the extent that they may be affected, individual property owners.

Article 418. Standard land use and occupancy. (a) In accordance with the provisions of this article, the licensee shall have the authority to grant permission for certain types of use and occupancy of project lands and waters and to convey certain interests in project lands and waters for certain types of use and occupancy, without prior Commission approval. The licensee may exercise the authority only if the proposed use and occupancy is consistent with the purposes of protecting and enhancing the scenic, recreational, and other environmental values of the project. For those purposes, the licensee shall also have continuing responsibility to supervise and control the use and occupancies for which it grants permission, and to monitor the use of, and ensure compliance with the covenants of the instrument of conveyance for, any interests that it has conveyed under this article. If a permitted use and occupancy violates any condition of this article or any other condition imposed by the licensee for protection and enhancement of the project's scenic, recreational, or other environmental values, or if a covenant of a conveyance made under the authority of this article is violated, the licensee shall take any lawful action necessary to correct the violation. For a permitted use or occupancy, that action includes, if necessary, canceling the permission to use and occupy the project lands and waters and requiring the removal of any non-complying structures and facilities.

****36** (b) The types of use and occupancy of project lands and waters for which the licensee may grant permission without prior Commission approval are: (1) landscape plantings; (2) non-commercial piers, landings, boat docks, or similar structures and facilities that can accommodate no more than 10 water craft at a time and where said facility is intended to serve single-family type dwellings; (3) embankments, bulkheads, retaining walls, or similar structures for erosion control to protect the existing shoreline; and (4) food plots and other wildlife enhancement. To the extent feasible and desirable to protect and enhance the project's scenic, recreational, and other environmental values, the licensee shall require multiple use and occupancy of facilities for access to project lands or waters. The licensee shall also ensure, to the satisfaction of the Commission's authorized representative, that the use and occupancies for which it grants permission are maintained in good repair and comply with applicable state and local health and safety requirements. Before granting permission for construction of bulkheads or retaining walls, the licensee shall: (1) inspect the site of the proposed construction, (2) consider whether the planting of vegetation or the use of riprap would be adequate to control erosion at the site, and (3) determine that the proposed construction is needed and would not change the basic contour of the reservoir shoreline. To implement this paragraph (b), the licensee may, among other things, establish a program for issuing permits for the specified types of use and occupancy of project lands and waters, which may be subject to the payment of a reasonable fee to cover the licensee's costs of administering the permit program. The Commission reserves the right to require the licensee to file a description of its standards, guidelines, and procedures for implementing this paragraph (b) and to require modification of those standards, guidelines, or procedures.

(c) The licensee may convey easements or rights-of-way across, or leases of, project lands for: (1) replacement, expansion, realignment, or maintenance of bridges or roads where all necessary state and federal approvals have been obtained; (2) storm drains and water mains; (3) sewers that do not discharge into project waters; (4) minor access roads; (5) telephone, gas, and electric utility distribution lines; (6) non-project overhead electric transmission lines that do not require erection of support structures within the project boundary; (7) submarine, overhead, or underground major telephone distribution cables or major electric distribution lines (69-kV or less); and (8) water intake or pumping facilities that do not extract more than one million gallons per day from a project reservoir. No later than January 31 of each year, the licensee shall file three copies of a report briefly describing for each conveyance made under this paragraph (c) during the prior calendar year, the type of interest conveyed, the location of the lands subject to the conveyance, and the nature of the use for which the interest was conveyed.

****37** (d) The licensee may convey fee title to, easements or rights-of-way across, or leases of project lands for: (1) construction of new bridges or roads for which all necessary state and federal approvals have been obtained; (2) sewer or effluent lines that discharge into project waters, for which all necessary federal and state water quality certification or permits have been obtained; (3) other pipelines that cross project lands or waters but do not discharge into project waters; (4) non-project overhead electric transmission lines that require erection of support structures within the project boundary, for which all necessary federal and state approvals have been obtained; (5) private or public marinas that can accommodate no more ***64574** than 10 water craft at a time and are located at least one-half mile (measured over project waters) from any other private or public marina; (6) recreational development consistent with an approved exhibit R or approved report on recreational resources of an exhibit E;

and (7) other uses, if: (I) the amount of land conveyed for a particular use is five acres or less; (ii) all of the land conveyed is located at least 75 feet, measured horizontally, from project waters at normal surface elevation; and (iii) no more than 50 total acres of project lands for each project development are conveyed under this clause (d) (7) in any calendar year. At least 60 days before conveying any interest in project lands under this paragraph (d), the licensee must submit a letter to the Director, Office of Energy Projects, stating its intent to convey the interest and briefly describing the type of interest and location of the lands to be conveyed (a marked exhibit G map may be used), the nature of the proposed use, the identity of any federal or state agency official consulted, and any federal or state approvals required for the proposed use. Unless the Director, within 45 days from the filing date, requires the licensee to file an application for prior approval, the licensee may convey the intended interest at the end of that period.

(e) The following additional conditions apply to any intended conveyance under paragraph (c) or (d) of this article:

(1) Before conveying the interest, the licensee shall consult with federal and state fish and wildlife or recreation agencies, as appropriate, and the State Historic Preservation Officer.

(2) Before conveying the interest, the licensee shall determine that the proposed use of the lands to be conveyed is not inconsistent with any approved exhibit A or approved report on recreational resources of an exhibit E; or, if the project does not have an approved exhibit R or approved report on recreational resources, that the lands to be conveyed do not have recreational value.

(3) The instrument of conveyance must include the following covenants running with the land: (I) the use of the lands conveyed shall not endanger health, create a nuisance, or otherwise be incompatible with overall project recreational use; (ii) the grantee shall take all reasonable precautions to insure that the construction, operation, and maintenance of structures or facilities on the conveyed lands will occur in a manner that will protect the scenic, recreational, and environmental values of the project; and (iii) the grantee shall not unduly restrict public access to project waters.

****38** (4) The Commission reserves the right to require the licensee to take reasonable remedial action to correct any violation of the terms and conditions of this article, for the protection and enhancement of the project's scenic, recreational, and other environmental values.

(f) The conveyance of an interest in project lands under this article does not in itself change the project boundaries. The project boundaries may be changed to exclude land conveyed under this article only upon approval of revised exhibit G or K drawings (project boundary maps) reflecting exclusion of that land. Lands conveyed under this article will be excluded from the project only upon a determination that the lands are not necessary for project purposes, such as operation and maintenance, flowage, recreation, public access, protection of environmental resources, and shoreline control, including shoreline aesthetic values. Absent extraordinary circumstances, proposals to exclude lands conveyed under this article from the project shall be consolidated for consideration when revised exhibit G or K drawings would be filed for approval for other purposes.

(g) The authority granted to the licensee under this article shall not apply to any part of the public lands and reservations of the United States included within the project boundary.

(H) The Licensee shall serve copies of any Commission filing required by this order on any entity specified in the Order to be consulted on matters relating to that filing. Proof of service on these entities must accompany the filing with the Commission.

(I) This order is final unless a request for rehearing is filed within 30 days from the date of its issuance, as provided in Section 313(a) of the FPA. The filing of a request for rehearing does not operate as a stay of the effective date of this **license** or of any other date specified in this order, except as specifically ordered by the Commission. The Licensee's failure to file a request for rehearing shall constitute acceptance of this order.

J. Mark Robinson
Director
Office of Energy Projects

APPENDIX A

FINAL **LICENSE** CONDITIONS NECESSARY FOR PROTECTION AND UTILIZATION OF THE SIERRA NATIONAL FOREST IN CONNECTION WITH THE APPLICATION FOR **LICENSE** PROJECT NO. **1354**, CRANE VALLEY

PACIFIC GAS AND ELECTRIC COMPANY

I. GENERAL

****39** The Forest Service provides the following final 4(e) conditions for the Crane Valley Hydropower Project, FERC No. **1354**.

License articles contained in the Commission's Standard Form L-1 (revised October 1975) issued by Order No. 540, dated October 31, 1975, cover general requirements that the Secretary of Agriculture, acting by and through the Forest Service, considers necessary for adequate protection and utilization of the land and resources of the Sierra National Forest. For the purposes of section 4(e) of the Federal Power Act (16 U.S.C. 797(e)), the purposes for which National Forest was created or acquired shall be the protection and utilization of those resources enumerated in the Organic Administration Act of 1897 (30 Stat. 11), the Multiple-Use Sustained Yield Act of 1960 (74 Stat. 215), the National Forest Management Act of 1976 (90 Stat. 2949), and any other law specifically establishing a ***64575** unit of the National Forest System or prescribing the management thereof (such as the Wilderness Act or Wild and Scenic Rivers Act), as such laws may be amended from time to time, and as implemented by regulations and approved Forest Plans prepared in accordance with the National Forest Management Act. Specifically, these conditions are based on the Land and Resource Management Plan (as amended) for the Sierra National Forest as approved by the Regional Forester of the Pacific Southwest Region. Therefore, pursuant to section 4(e) of the Federal Power Act, the following conditions shall also be included in any **license** issued.

STANDARD FOREST SERVICE PROVISIONS

Condition No. 1 - DELETED

Condition No. 2 - Approval of Changes After Initial Construction

Notwithstanding any Commission approval or **license** provisions to make changes to the project, the Licensee shall get written approval from the Forest Service prior to making any changes in the location of any constructed project features or facilities, or in the uses of project lands and waters, or any departure from the requirements of any approved exhibits filed with the Commission. Following receipt of such approval from the Forest Service, and at least 60 days prior to initiating any such changes or departure, the Licensee shall file a report with the Commission describing the changes, the reasons for the changes, and showing the approval of the Forest Service for such changes. The Licensee shall file an exact copy of this report with the Forest Service at the same time it is filed with the Commission. This article does not relieve the Licensee from the amendment or other requirements of Article 2 or Article 3 of this **License**.

Condition No. 3 - Consultation

Each year during the 60 days preceding the anniversary date of the **license**, the Licensee shall consult with the Forest Service with regard to measures needed to ensure protection and utilization of the National Forest resources affected by the project.

Within 60 days following such consultation, the Licensee shall file with the Commission evidence of the consultation with any recommendations made by the Forest Service. The Forest Service reserves the right, after notice and opportunity for comment and administrative review, to require changes in the project and its operation through revision of the 4(e) conditions that require measures necessary to accomplish protection and utilization of National Forest resources.

III. ADDITIONAL FOREST SERVICE PROVISIONS

A. FISHERIES

Condition No. 4 - Minimum Stream flow Requirement

****40** Within one year of issuance of the **license** the Licensee in coordination with the Forest Service and other interested parties shall develop a daily time step “water balance” model using existing data to determine Bass Lake reservoir levels for the five water year types identified by the California Department of Water Resources San Joaquin Four Rivers forecast. The model will be used to refine the timing and amount of reduced instream flows for Dry and Critically Dry water years to meet reservoir elevations prescribed in Condition No. 10 -Lake Levels.

The licensee will periodically meet with Forest Service, US Fish and Wildlife Service, California Department of Fish and Game, California State Water Quality Control Board, and tribal representatives and other interested parties to integrate water balance models results with relevant plans specified other **license** conditions.

The Licensee shall maintain the following instantaneous minimum flows or the natural flow; whichever is less:

Immediately below the diversion in South Fork Willow Creek

January	4.5	cubic feet per second (cfs)
February	8.0	-do-
March	10.0	-do-
April	10.0	-do-
May	8.0	-do-
June	4.5	-do-
July	4.5	-do-
August	4.5	-do-
September	4.5	-do-
October	4.5	-do-
November	4.5	-do-
December	4.5	-do-

Until review and acceptance of the model, in dry or critically dry water years, the licensee may notify the commission of a variance to reduce the minimum instream flows for the South Fork Willow Creek to an instantaneous minimum flow of 3 cfs year-round or the natural flow; whichever is less, to achieve the lake level requirements specified in Condition 10.

After the completion of the a daily time step “water balance” model, the Forest Service, in consultation with the licensee, US Fish and Wildlife Service, California Department of Fish and Game, California State Water Quality Control Board, reserves the right to refine the timing and amount of reduced instream flows for South Fork Willow Creek in dry and critically dry years to meet reservoir *64576 elevations prescribed in Condition No.10 -Lake Levels.

North Fork Willow Creek below Crane Valley Dam - all water year types Year-round flow of 2 cfs

North Fork Willow Creek below Manzanita Lake Dam - all water year types Year-round flow of 2 cfs.

Willow Creek (vicinity of Rex Ranch) - all water year types Year-round flow of 0.5 cfs.

****41** The Licensee may temporarily modify minimum flows if required by project operation or law enforcement emergencies beyond the control of the Licensee. The Licensee may also modify minimum flows for short periods upon written consent of the Forest Service and the California Department of Fish and Game. Water year types are based on the May 1 California Department of Water Resources Bulletin 120 for the San Joaquin River.

Further the licensee shall measure and document all instream flow releases in publicly available and readily accessible formats. For the purposes of measuring and documenting compliance with the instream flows in the South Fork Willow Creek below the Brown's Creek Diversion, North Fork Willow Creek below Crane Valley Dam, North Fork Willow Creek below Manzanita Lake, Willow Creek in the vicinity of Rex Ranch, and reservoir levels in Bass Lake, the Licensee shall prepare and file with the Commission an Instream Flow Measurement Plan (Plan) that is approved by the Forest Service. The Plan shall include a description of existing or proposed instream flow measurement gages or devices. The Plan must describe existing or proposed provisions for making mean daily flow data and reservoir levels available to the public from the United States Geologic Survey (USGS) website or other publicly available site for the four stream reaches and reservoir described above. Hourly and 15 minute data must also be provided to the Forest Service, if requested, for these sites. The Plan should include evidence of gage calibration and historical and recent cross-section data, if applicable. The Licensee shall submit the Plan to the Forest Service as soon as practicable and no later than one year after **license** issuance. Implementation of the Plan elements shall not commence until the Plan has been formally approved in writing from the Forest Service and filed with the Commission.

Condition No. 5 - Stream Temperature Monitoring

Licensee shall file with the Director, Office of Hydropower **Licensing** within one year following the acceptance of the FERC **license**, a plan developed by the Licensee in consultation with California Department of Fish and Game, U.S. Fish and Wildlife Service, State Water Resources Control Board, and approved by the Forest Service, for monitoring water temperatures within projected affected stream reaches. The objective of the monitoring is to evaluate water temperatures on an hourly basis between May 1 - October 31 over a five-year period within project-affected stream reaches. Monitoring is necessary to verify the projections of water temperature modeling conducted as part of the relicensing of the project and to determine whether the instream flows are providing habitat conditions consistent with management goals. Licensee will provide an annual report discussing the results of the monitoring and a 5-year summary upon the completion of the monitoring.

Any comments resulting from the consultation with Resource Agencies shall be filed with the plan. The Commission may require changes to the plan to ensure adequate protection of the environmental, scenic, and cultural values of the project area. Upon Commission approval, the Licensee shall implement the plan.

Condition No. 6 - Willow Creek Native Species Monitoring Plan

****42** Licensee shall file with the Director, Office of Hydropower **Licensing** within one year following the acceptance of the FERC **license**, a plan developed by the Licensee in consultation with California Department of Fish and Game, U.S. Fish

and Wildlife Service, State Water Resources Control Board, and approved by the Forest Service, for the monitoring the native species association in several project affected segments within the Willow Creek drainage. Monitoring shall be in coordination with the Native Aquatic Species Management Plan being developed for the Lower San Joaquin Critical Aquatic Refuge. The Native Aquatic Species Management Plan will be a framework for the protection and preservation for native transition-zone fish and herpetofauna within the Critical Aquatic Refuge.

The purpose of the Crane Valley monitoring plan is to evaluate the condition of native aquatic/riparian species association, over the period of the **license**, within several project-affected segments within the Willow Creek drainage. Monitoring will be conducted every five years.

Fish monitoring will be conducted in mid-May and again in October to determine the importance of this stream segment as spawning refugia by the native fish association. Sites to be sampled for native fishes are sites 1 and 2, identified by the Licensee's Hardhead Study (2002) for species composition, abundance, and size distribution.

Sites to be sampled for herpetofauna are the lowest ½ mile segment of Willow Creek, the segment of South Fork Willow Creek where the western pond turtle were most abundant during sampling in 2001 (survey sites 5-7), and the portion of North Fork Willow Creek where the applicant identified presence of foothill yellow-legged frog. Herpetofauna will be recorded by species, life stage, and abundance.

A report on the results of the 5-year monitoring of native aquatic/riparian species will be provided ***64577** to the Forest Service discussing trends in the native association and identifying threats to the native species, if declines are noted.

Any comments resulting from consultations with Resource Agencies shall be filed with the plan. The Commission may require changes to the plan to ensure adequate protection of the environmental, scenic, and cultural values of the project area. Upon Commission approval, the Licensee shall implement the plan.

Condition No. 7 - Rex Ranch Flow Study Plan

Licensee shall file with the Director, Office of Hydropower **Licensing** within one year following the acceptance of the FERC **license**, a plan developed by the Licensee in consultation with California Department of Fish and Game, U.S. Fish and Wildlife Service, State Water Resources Control Board, and approved by the Forest Service, for evaluating the instream flow necessary below the diversion dams on the North and South Forks of Willow Creek in order to provide 0.5 cfs at stream gauge W-26 (Rex Ranch). Licensee shall not commence activities the Forest Service determines to be affected by the plan until after 60 days following the filing date, unless the Director, Office of Hydropower **Licensing**, prescribes a different commencement schedule.

B. HYDROLOGY

Condition No. 8 - Stream Channel Geomorphology; Sediment Transport and Channel Maintenance Flow Management Plan

****43** The Licensee shall file with the Director, Office of Hydropower **Licensing**, a stream channel geomorphology and sediment management plan developed by the Licensee in consultation with California Department of Fish and Game, U.S. Fish and Wildlife Service, State Water Resources Control Board, and approved by the Forest Service, within one year following the date of issuance of this **license**. The plan should be based upon both literature and field review. The overall intent of the Stream Channel Geomorphology; Sediment Transport and Channel Maintenance Flow Management Plan shall be to describe how project operations and maintenance comply with the Sierra National Forest Land and Resources Management Plan (amended 2001), including all applicable aquatic management strategy goals (desired conditions), riparian conservation objectives, and standards and guidelines. As a minimum the plan should include:

1) An assessment of project affected streams to determine if relevant geomorphic characteristics (including but not limited to bank angle, stream bank stability, bankfull width to depth and entrenchment ratios, substrate embeddedness, channel-floodplain connectivity, residual pool depth and/or pool sedimentation, and channel substrate) are within the range of natural variability compared to reference conditions.

2) An assessment of project modifications to the natural (i.e., unimpaired) hydrograph and analysis of hydrologic flow conditions necessary for the maintenance or enhancement of aquatic, fluvial-geomorphic, and riparian conditions. The plan should identify the timing, duration, and quantity for flushing flows and quantity of material to be sluiced from project impoundments. The plan should delineate the requirements necessary to move fine sediment and sand through project-affected reaches.

3) Monitoring of sediment movement through North Fork Willow Creek below Manzanita Lake. In order to determine whether sluicing properly transports sediment downstream of Manzanita Lake, monitoring will be conducted every five years through the period of the **license**. Monitoring will consist of sampling 10 pools downstream of the dam using V* methodology (Lisle and Hilton 1991) to determine levels of sediment occupying pool habitat over time. Consult with the Forest Service when determining sampling sites. Following collection of V* data, a report will be supplied to the Forest Service comparing residual pool volumes with previous monitoring results.

Any comments resulting from consultations with Resource Agencies shall be filed with the plan. The Commission may require changes to the plan to ensure adequate protection of the environmental, scenic, and cultural values of the project area. Upon Commission approval, the Licensee shall implement the plan.

Condition No. 9 - Plan Implementation, Bass Lake Erosion Control Plan

The Licensee shall implement the Bass Lake Erosion Control Plan (June 1985), which is approved and made part of the **license**. The plan, consisting of pages one through 127, drawings and appendices, provides measures for construction of erosion preventive devices at Bass Lake.

C. RECREATION

Condition No. 10 - Lake Levels

****44** If the July 1st elevation of Bass Lake is at or above 3,368 feet, the licensee shall keep the reservoir at or above 3,368 feet until August 1st, and then drop the reservoir no more than 1 foot by August 15th. If the July 1st Bass lake elevation is below 3,368 feet, the licensee shall operate the Crane Valley Project so that the reservoir elevation does not go below the July 1st elevation until August 1st, and then drops no more than one foot below the July 1st elevation by August 15th.

The Licensee may deviate from these levels on Bass Lake for a period of 14 days by notifying the Sierra National Forest Supervisor and Regional Director for the Federal Energy Regulatory Commission. At the end of the 14 days the Licensee must meet the required lake levels.

***64578 Condition No. 11 - Recreation Development**

The Licensee shall fund half of the cost of rehabilitating each of the public recreation facilities that are covered by the Recreation Settlement Agreement and identified in Table 1. If matching funds from the Forest Service, from increased user fees, or from other non-Licensee sources are not available, the licensee shall fund the full cost of rehabilitating and improving each of the public recreation facilities, but on a delayed implementation schedule.

Rehabilitation will be completed according to universal access design concepts and will include: repair of all health and safety defects, maintenance or restoration of infrastructure such as roads and barriers to current engineering standards appropriate

to Development Scale IV or V (as appropriate); repair or replacement, as necessary, of utility systems such as sewer and water lines; repair or replacement, as necessary of toilets, water hydrants, bulleting boards, and other fixtures necessary and customary for Development Scale IV and V recreation sites. Development Scale IV improvements shall include the installation of showers where appropriate. Development Scale V improvements shall include all facilities appropriate in Development Scale IV with inclusion of sewer, water and electrical hoops at each individual trailer pad where feasible. These improvements shall be designed and constructed to be accessible to people of all abilities pursuant to the Americans with Disabilities Act of 1990.

The Implementation Schedule will commence in the year after the issuance of the **License**. Each recreation facility shall be rehabilitated no later than indicated in Table 1. Facilities may be rehabilitated earlier if the Forest Service approves the use of Forest Service funds or other non-Company funding is obtained for rehabilitation of a given recreation facility.

All improvements shall meet Forest Service standards appropriate to the use, motif, and character of Bass Lake. The Forest Service shall approve rehabilitation plans prepared by the Company as least three months prior to the start of the construction.

The terms of the Recreation Settlement Agreement shall guide the details of managing the recreation facilities and implementing this condition in the Crane Valley Project.

****45** Table 1 - Implementation Schedule for Rehabilitating Recreation Facilities at Bass Lake

Facility Name	With CIP Funding	With Other Funding Sources	With Licensee Funding Only
Lakeside Day Use	2001	__ a1	__ a1
Forks Campground and RV Dump Site	2002	__ a1	__ a1
Spring Cove Campground	2004	__ a1	__ a1
Denver Church Day Use	2004	2009	2014
Falls Beach Day Use	2005	2010	2015
Recreation Point Day Use and Campground	2005	2010	2015
Crane Valley Group Campground	2006	2011	2016
Pine Point, Rocky Point, and Pine Slope Day Use	2007	2012	2017
Wishon Point Campground	2008	2013	2018
Bass Lake Recreation Office and Amphitheater	2009	2014	2019
Lupine-Cedar Campground	2010	2015	2020
Willow Cove Day Use	2011	2016	2021
Wishon Day Use and Boat Ramp	2012	2017	2022

*64579 Each of the public recreation facilities identified in Table 1 shall remain the responsibility of the Forest Service and shall not be part of the FERC project **license** until it is cooperatively rehabilitated by the Parties or until the milestone date specified in Table 1 is reached, which ever comes first.

Condition No. 12 - Recreation Survey

46 Licensee shall conduct a Recreational Survey and prepare a Report on Recreational Resources once every six years from **license issuance. The Recreational Survey shall include but not be limited to changes in kinds of use and use patterns, user survey as to preferences in recreation activities, kinds and sizes of recreation vehicles, preference for day use versus overnight use and recreation user trends within the project area. A copy of the survey and survey results will be provided to the Forest Service. The Report on Recreational resources shall comply with the FERC's regulations at 18 CFR section 4.51(f) (1996), and shall be provided to the Forest Service for review and comment prior to being filed with the Commission. The Forest Service reserves the right, after notice and opportunity for comment and administrative review, to require changes in the project and its operation through revision of the 4(e) conditions that require measures necessary to accomplish protection and utilization of National Forest resources identified as a result of these surveys.

D. WILDLIFE

Condition No. 13 - Deer Crossing Bridges

Within one year of the issuance of the **License**, the Licensee will reconstruct all existing and former deer crossings to the following standard: Each deer crossing bridge shall meet latest wildlife crossing standards, and be controlled to prevent vehicle use. Each bridge and approach shall be of sufficient strength and character to give deer, and any other wild animals, a sense of *64580 safe and secure footing while crossing the bridge. All bridges shall be maintained and left in place for the term of the **license**.

Within the first year after issuance of the **license**, Option 1 (\$30,000) of the Crane Valley Phase 1 Agreement (1997) Mule Deer Resource Improvement Recommendation shall be implemented to install deer crossing bridges in locations approved by the Forest Service and in consultation with the California Department of Fish and Game.

If, in the tenth year after issuance of the **license**, surveys of game patterns indicate use of at least half of the new bridges by deer, sufficient to leave a discernible game trail, install at least the same number of bridges as Option 1 above, at locations approved by the Forest Service and in consultation with the California Department of Fish and Game.

If, in the twentieth year after issuance of the **license**, surveys of game patterns indicate use of at least half of the new bridges by deer, sufficient to leave a discernible game trail, install at least the same number of bridges as Option 1 above, at locations approved by the Forest Service and in consultation with the California Department of Fish and Game.

Condition No. 14-Protection of Threatened, Endangered, Proposed for Listing and Sensitive Species

Before taking actions to construct new project features (including but not limited to proposed recreation developments) that may affect a species proposed for listing, or listed under the federal Endangered Species Act, or that may affect that species' critical habitat, or a Forest Service sensitive species or its habitat, the Licensee shall prepare a Biological Evaluation evaluating the potential impact of the action on the species or its habitat and submit it to the Forest Service for approval. In consultation with the Commission, the Forest Service may require mitigation measures for the protection of the affected species.

Condition No. 15 - Bald Eagle and Raptor Management Plans

****47** Licensee shall file with the Director, Office of Hydropower **Licensing** within one year following the acceptance of the FERC **license**, a plan developed by the Licensee in consultation with California Department of Fish and Game, U.S. Fish and Wildlife Service, and the USDA Forest Service for the management of bald eagles, raptors, and associated habitat within the Project area.

The purpose of plan is to determine whether project operations and other associated activities affect bald eagles and/or raptors at and around Bass Lake. The primary purpose by the multi-agency cooperation and coordination of the bald eagle management plan is to conserve, sustain, and increase habitat quantity and quality for one or more bald eagle nesting territory reproductive pairs and over wintering bald eagle migrants. Measures of success is determined through periodic monitoring of nesting pair(s) with nesting success on par with the State of California overall average number of young produced per territory. Another purpose is to identify opportunities to maintain or enhance the habitat conditions for nesting and foraging which includes protection of essential sites from human disturbance such as from recreation events, boating, fireworks, road and parking uses, and maintenance and construction activities in the area. Habitat improvements should be considered such as sivilicultural treatments and possible designating permanent or seasonal use (public) restrictive areas.

Specific objectives of the management plan are:

1. Habitat protection measures and enhancement opportunities will be identified. In addition, potential threats to the habitat and to prey bases and their habitat will be identified. Actions to protect against identified threats will be described.
2. Habitat and species monitoring will be conducted periodically and documented to determine if standards and guidelines from the plan are implemented and affected; and if project operations, recreation activities, and other management actions are having a trend in beneficial or detrimental effects. If declining trends in habitat conditions or populations are detected within the project area the agencies should consider revisions of the management plan to deal more effectively with the trends and/ or reestablish goals and objectives for bald eagles and/or area.
3. A GIS database and maps will be developed depicting existing vegetation, structures, roads, power lines, and schedules and areas for potential implementation of projects. Habitat protection measures and enhancement opportunities will be identified. In addition, potential threats to the habitat and to native species communities will be described. Actions to protect against identified threats will be described.

Condition No. 16 - Transmission Line Corridor Habitat Management and Maintenance Plan

The Licensee shall file with the Director, Office of Hydropower **Licensing** within one year following the acceptance of the FERC **license** a Vegetation Management Plan, approved by the Forest Service, for the protection and maintenance of forest resources associated with vegetation management near project facilities. The plan must be consistent with the Standard and Guidelines for affected management areas in the Sierra National Forest Land and Resource Management Plan. The plan at a minimum must address access routes, season of operations, cultural resources, consultation with local Native Americans regarding gathering, slash treatment, vegetation treatment (falling, limbing topping), wildlife and botanical concerns, noxious weeds, visually sensitive areas, and Forest Service notification procedures.

***64581 E. CULTURAL AND HISTORIC RESOURCES**

Condition No. 17 - Historic Properties Management Plan

****48** The Licensee shall implement the Historic Properties Management Plan and Implementation Schedule, which is tiered to a Programmatic Agreement as defined by 36 CFR 800, implementing regulations of the National Historic Preservation Act. The California State Historical Preservation Officer and the Advisory Council on Historic Preservation approved the Programmatic

Agreement. The goal of the Programmatic Agreement is to manage heritage resources and places of Native American concern that are adversely affected by operation and maintenance of the project.

F. VEGETATION

Condition No. 18 - Noxious Weeds Management Plan

The Licensee shall file with the Director, Office of Hydropower **Licensing** within one year following the acceptance of the FERC **license** a Noxious Weed Management Plan, approved by the Forest Service for the purpose of controlling and containing the spread of noxious weeds. The plan must be consistent with the Standard and Guidelines for affected management areas in the Sierra National Forest Land and Resource Management Plan. The plan will meet the objectives described in this condition. The plan shall include a monitoring plan that details corrective measures that will be taken if noxious or exotic weeds are found. The plan shall include a requirement for an annual written report documenting the results of the monitoring.

The plan at a minimum must include:

- a) Inventory, mapping and monitoring
- b) Prevention strategies for invader plant species (such as cleaning equipment, use of weed free materials)
- c) Treatment of new and established infestations
- d) Education program for project employees

The licensee shall thoroughly clean all equipment before entering project areas. The licensee shall employ whatever cleaning methods are necessary to ensure that seeds of noxious weeds are not introduced in these areas. The licensee shall notify Forest Service at least 10 working days prior to moving each piece of equipment on to National Forest Land, unless otherwise agreed. Notification will include identifying the location of the equipment's most recent operations. If the prior location of the equipment cannot be identified, Forest Service may assume that it was infested with noxious weed seeds. Upon request of Forest Service, arrangements will be made for Forest Service to inspect each piece of equipment prior to it being placed in service.

The licensee shall use certified weed-free straw for all construction or restoration needs. If certified weed-free straw is not available, rice straw may be substituted. The licensee shall use an approved mix of species native to the Sierra National Forest for restoration or erosion control purposes.

Condition No. 19 - Riparian Area Monitoring Plan

Within one year following the date of acceptance of this **license** and before starting any activities the Forest Service determines to be of a land-disturbing nature on National Forest System land, the Licensee shall file with the Director, Office of Hydropower **Licensing**, a plan approved by the Forest Service for monitoring the effects of project operations and maintenance on riparian vegetation within the Crane Valley system. Included in this assessment is a determination if the age class, structural diversity, composition, and cover of riparian vegetation are within the range of natural variability for the vegetative community and are properly functioning. If outside the range of natural variability, a Forest Service approved riparian vegetation restoration plan would be implemented. One available tool is the Proper Functioning Condition methodology (USDI BLM, 1998).

G. OTHER CONDITIONS

Condition No. 20 - Development Plans

****49** Development plans; layout plans; construction, reconstruction, or alteration of improvements plans; or revision of layout or construction plans for this area must be approved in advance and in writing by the Forest Supervisor.

Condition No. 21 - Maintenance of Improvements

The Licensee shall maintain the improvements and premises to standards of repair, orderliness, neatness, sanitation, and safety. For example, trash, debris, unusable machinery, etc., will be disposed of separately; other materials will be stacked, stored neatly, or within buildings. Disposal will be at an approved existing location, except as otherwise agreed to by the Forest Service.

Condition No. 22 - Existing Claims

The project **license** is subject to all valid claims and existing rights.

Condition No. 23 - Regulation Compliance

The Licensee shall comply with the regulations of the Department of Agriculture and all Federal, State, county, and municipal laws, ordinances, or regulations that are applicable to the area or operations covered by this **license**.

Condition No. 24 - Fire Suppression

The Licensee shall file with the Director, Office of Hydropower **Licensing** within one year following the acceptance of the FERC **license** a Fire Prevention and Response Plan, approved by the Forest Service which shall set forth in detail the ***64582** plan for prevention, reporting, control, and extinguishing of fires in the vicinity of the Licensee's project. Such plans shall be reviewed and revised at intervals of not more than three years.

Condition No. 25 - Protection of United States Property

The Licensee shall exercise diligence in protecting from damage the land and property of the United States covered by and used in connection with this **license**, and shall pay the United States for any damage resulting from negligence or from the violation of the terms of this **license** or of any law or regulation applicable to the National Forests by the Licensee, or by any agents or employees of the Licensee acting within the scope of their agency or employment.

Condition No. 26 - Conflict of Interest

No member of Congress or Resident Commissioner shall be admitted to any share or part of this agreement or to any benefit that may arise herefrom unless it is made with a corporation for its general benefit.

Condition No. 27 - Surrender of **License or Transfer of Ownership**

The Licensee shall guarantee or assure, in a manner satisfactory to the Forest Service, that the costs of **license** surrender and restoration of Project-affected National Forest System lands will be provided for by the Licensee. If deemed necessary by the Forest Service, the Licensee shall conduct an analysis, using experts approved by the Forest Service, to estimate the potential costs associated with surrender and restoration of National Forest System lands to Forest Service specifications. In addition, if deemed necessary by the Forest Service, the Licensee shall pay for an independent audit to assist the Forest Service in determining whether the Licensee has the financial ability to fund the surrender and restoration work specified in the analysis.

****50** As a condition of any transfer of the **license** or sale of the project, the Licensee shall guarantee or assure, in a manner satisfactory to the Forest Service, that the costs of **license** surrender and restoration of Project-affected National Forest System lands will be provided for by the Licensee or transferee. If deemed necessary by the Forest Service to assist it in evaluating

the Licensee's proposal, the Licensee shall conduct an analysis, using experts approved by the Forest Service, to estimate the potential costs associated with **license** surrender and restoration of the project area to Forest Service specifications. In addition, the Forest Service may require the Licensee to pay for an independent audit of the transferee to assist the Forest Service in determining whether the transferee has the financial ability to fund the surrender and restoration work specified in the analysis.

Condition No. 28 - Change of Address

In case of change of address, the Licensee shall immediately notify the Forest Supervisor.

Condition No. 29 - Self Insurance

The Licensee is self-insured. The Licensee agrees to defend the United States against any action for property damage, bodily injury, or death arising out of the Licensees activities under the FERC Licensee for Project No. **1354**.

Condition No. 30 - Non-exclusive Use

The Forest Service reserves the right to use or permit others to use any part of the **licensed** area for any purpose, provided such use does not interfere with the rights and privileges authorized under the Federal Power Act. The Licensee shall allow officers of the United States free and unrestricted access to the project lands and project works in the performance of their official duties.

Condition No. 31 - Project Safety

The Licensee shall carry out all operation in a skillful manner, having due regard for the safety of employees and the public, and shall safeguard unsafe areas. The Licensee shall regularly inspect its facilities and provide further effective safety measures as needed for safety protection.

Condition No. 32 - Water Pollution

The Licensee shall not alter project waters or discharge waste or byproducts if it contains any substances in concentrations that would result in violation of water quality standards set forth by the State; would impair present or future beneficial uses of water; would cause pollution, nuisance, or contamination; or would unreasonably degrade the quality of any waters in violation of any federal or state law. During any new construction and during operation and maintenance of the project, the Licensee shall prevent water pollution by using Best Management Practices identified by the Forest Service.

Condition No. 33 - Visual Resource Plan

Licensee shall file with the Director, Office of Hydropower **Licensing** within one year following the acceptance of the FERC **license** a Visual Resource Plan, approved by the Forest Service, for protection and rehabilitation of National Forest System visual resources affected by the project. At a minimum the Visual Resource Plan should address clearings, spoil piles, and project facilities like diversion structures, penstocks, pipes, ditches, powerhouses, other buildings, transmission lines, corridors, and access roads. The Visual Resource Plan should address facility configurations, alignments, building materials, colors, landscaping, and screening. The Visual Resource Plan will provide a proposed mitigation and implementation schedule to bring the project into compliance with visual resource standards and guidelines in the Sierra National Forest Land and Resource Management Plan as Amended.

***64583 Condition No. 34 - Damage--High Hazard**

****51** The Licensee is hereby made liable for all injury, loss, or damage, including but not limited to fire suppression costs, directly or indirectly resulting from or caused by the Licensee's use and occupancy of the area covered by the **license**, regardless

of whether the Licensee is negligent or otherwise at fault, provided that the maximum liability without fault shall not exceed \$1,000,000 for any one occurrence, and provided further that the Licensee shall not be liable when such injury, loss, or damage results wholly, or in part, from a negligent act of the United States, or from an act of a third party not involving the facilities of the Licensee.

Determination of liability for injury, loss, or damage, including fire suppression costs, in excess of the specified maximum, shall be according to the laws governing ordinary negligence.

Condition No. 35 - Risks and Hazards

Avalanches, rising waters, high winds, falling limbs or trees, and other hazards are natural phenomena in the forest that present risks to the Licensee's property and facilities that the Licensee operates associated with the **license** that the Licensee hereby assumes. The Licensee is responsible for inspecting its site, right-of-way, and the immediate adjoining area for dangerous trees, hanging limbs, and other evidence of hazardous conditions and, after securing permission from the Forest Service, is responsible for removing such hazards.

Condition No. 36 - Signs

The Licensee shall erect no signs or advertising devices on the are covered by this **license** without prior approval of the Forest Service as to location, design, size, color, and message. The Licensee shall maintain or renew erected signs as necessary to neat and presentable standards.

Condition No. 37 - Improvement Relocation

This **license** is issued with the express understanding that should future location of Government improvements or road rights-of-way require the relocation or adjustment of the Licensee's linear-type improvements (such as transmission lines, penstocks, pipelines, ditches, or roads), the Licensee shall accomplish such relocation at the Licensee's expense within 180 days following written request to relocate. The 180-day time limit may be extended (in writing) at the discretion of the authorizing officer.

Condition No. 38 - Pesticide-Use Restrictions

Pesticides may not be used to control undesirable woody and herbaceous vegetation, aquatic plants, insects, rodents, trash fish, etc., without the prior written approval of the Forest Service. The Licensee shall submit a request for approval of planned uses of pesticides. The report must cover annual planned use and be updated as required by the Forest Service. The Licensee shall provide information essential for review in the form specified. Exceptions to this schedule may be allowed only when unexpected outbreaks of pests require control measures that were not anticipated at the time the report was submitted. In such an instance, an emergency request and approval may be made.

****52** The Licensee shall use on National Forest System lands only those materials registered by the U.S. Environmental Protection Agency for the specific purpose planned. The Licensee must strictly follow label instructions in the preparation and application of pesticides and disposal of excess materials and containers.

Condition No. 39 - Transportation System Management Plan

The Licensee shall file with the Director, Office of Hydropower **Licensing**, within one year following the issuance of the new project **license**, a Transportation System Management Plan, approved by the Forest Service, for protection and maintenance of roads and trails associated with this **license**. At a minimum, the plan should include a map showing all roads and trails associated with this project, identify the uses (i.e., recreation, facility access) of roads and trails, condition surveys, construction/reconstruction needs, maintenance needs, road closure, safety, jurisdiction (i.e., county, state), identify road and trails requiring

additional permitted use processes, and identify associated road and trail access needs with respect to the project boundary and maintenance responsibilities.

The United States shall have unrestricted use of any road constructed within the project area for all purposes deemed necessary or desirable in connection with the protection, administration, management, and utilization of federal lands or resources and shall have the right to extend rights and privileges for use of the right-of-way and road thereon to states and local subdivisions thereof, as well as to other users, including members of the public, except contractors, agents, and employees of the Licensee; provided, that the agency having jurisdiction shall control such use so as not unreasonably to interfere with use of the road by the Licensee or cause the Licensee to bear a share of the cost of maintenance greater than the Licensee's use bears to all use of the road.

The Licensee shall confine all project vehicles, including, but not limited to administrative and transportation vehicles and construction and inspection equipment, to roads or specifically designed access routes. The Forest Service reserves the right to close any and all such routes where damage is occurring to the soil or vegetation, or if requested by Licensee, to require reconstruction/construction by the Licensee to the extent needed to accommodate the Licensee's use. The Forest Service agrees to provide notice to the Licensee and FERC prior to road closures, except in an emergency, in which case notice will be provided as soon as practicable.

***64584 Condition No. 40 - Hazardous Substance Plan**

Within one year following the date of acceptance of this **license** and at least 60 days before starting any activities the Forest Service determines to be of a land-disturbing nature on National Forest System land, the Licensee shall file with the Director, Office of Hydropower **Licensing**, a plan approved by the Forest Service for oil and hazardous substances storage and spill prevention and cleanup.

****53** At a minimum, the plan must require the Licensee to: (1) maintain in the project area, a cache of spill cleanup equipment suitable to contain any spill from the project; (2) create a notification list in the event of a spill; (3) identify spill prevention measures; (4) periodically inform the Forest Service of the location of the spill cleanup equipment on National Forest System land and of the location, type, and quantity of oil and hazardous substances stored in the project area; and (5) inform the Forest Service immediately of the nature, time, date, location, and action taken for any spill.

The Licensee shall not commence activities the Forest Service determines to be affected by the plan until after 60 days following the filing date, unless the Director, Office of Hydropower **Licensing**, prescribes a different commencement schedule.

Condition No. 41 - Land Line Surveys

Where the effects of the project require activities and/or mitigation on National Forest System lands adjacent to unsurveyed private property, the licensee will have the appropriate boundary surveyed by a surveyor **licensed** by the State of California. The survey must be in accordance with the Bureau of Land Management's 1973 Manual of Surveying Instructions and must comply with existing State and County regulations.

Condition No. 42 - Implementation and Modification of Forest Service Conditions After Appeal

These **license** articles are effective at the completion of any Forest Service administrative appeal filed under 36 CFR Part 215. If the Forest Service modifies its 4(e) conditions as a result of the administrative appeals process, the Forest Service reserves the right to file revised final 4(e) conditions with the Commission.

Condition No. 43 - Modification of Forest Service Conditions After Biological Opinion

The Forest Service reserves the right to modify these conditions, if necessary, to respond to any Final Biological Opinion issued for this project by the Fish and Wildlife Service or National Marine Fisheries Service.

Footnotes

- 1 The Phase 1 Agreement was ratified by the Sierra National Forest (SNF), U.S. Fish and Wildlife Service (FWS), U.S. Bureau of Reclamation (BR), California Department of Fish and Game (CDFG), Madera Irrigation District, Madera County Board of Supervisors, and PG&E.
- 2 A 1909 water rights contract with senior water rights holders administered by the BR on behalf of the San Joaquin Water Exchange Contractors.
- 3 33 U.S.C. § 1341(a)(1).
- 4 33 U.S.C. § 1341(d).
- 5 The introductory statement of the Forest Service's appended Section 4(e) conditions notwithstanding, these are the only purposes that are relevant for a Commission determination under Section 4(e) as to whether a project will interfere or be inconsistent with the purpose for which the reservation (National Forest) was created or acquired. See *Rainsong Company v. FERC*, 106 F.3d 269 (9th Cir. 1997).
- 6 16 U.S.C. § 811.
- 7 *Lynchburg Hydro Associates*, 39 FERC ¶61,079 (1987).
- 8 16 U.S.C. §803(j)(1).
- 9 16 U.S.C. §661 *et seq.*
- 10 This recommendation, that PG&E continue to participate in the Crane Valley Project Committee, is not within the scope of Section 10(j) because it is not a specific fish and wildlife measure. After considering CDFG's recommendation under FPA Section 10(a), I am not requiring PG&E to continue to participate in the Crane Valley Project Committee. In several of the articles that are being made part of this order, I am requiring PG&E to consult with agencies and interested parties, to the extent that particular interested party is not represented by a resource agency. Each article requires the licensee to consult with only those parties directly involved in the issue the article addresses.
- 11 This recommendation, that PG&E comply with any biological opinion for the project pursuant to the Endangered Species Act, is not within the scope of Section 10(j) because it is not a specific fish and wildlife measure. See 18 C.F.R. § 4.30(b)(9)(ii). In the Endangered Species section of this **license** order, I discuss the measures I've included in this **license** to protect endangered species.
- 12 In a letter dated October 3, 2002, Commission staff explained its preliminary findings on the eleven specific fish and wildlife measures that the U.S. Fish and Wildlife Service recommends.
- 13 Section 4(e) condition no. 13 does require PG&E to construct new deer crossings and maintain/reconstruct existing deer crossings so that they meet the FS's current standards for wildlife crossings. FS condition no. 13 requires PG&E to monitor the effectiveness of the deer crossings and evaluate the need for additional crossings.
- 14 Adaptive management is a method that allows flexibility in achieving a defined goal, such as varying the volume and release point of an attraction flow to increase the efficiency of a fish ladder based on experience with the original volume and release point.
- 15 Interior's interim minimum flows are identical to the minimum flows contained in condition no. 4 submitted by the Forest Service pursuant to Section 4(e) of the FPA, except the Interior recommendation does not provide for dry and critically dry year variances.
- 16 Interior noted that should the Commission not incorporate the monitoring program, then their original flow recommendation would constitute their final Section 10(j) recommendation.
- 17 16 U.S.C. § 1536(a)(2).
- 18 The BA was included in the Supplemental EA prepared for the project.
- 19 Section 7(b) of the ESA imposes strict time limits on formal consultation and requires the applicant's consent to an extension of the consultation period. Formal consultation concludes within 90 days after its initiation unless extended. Within 45 days after concluding formal consultation, FWS is to deliver a biological opinion to the federal agency and any applicant (a 135-day time frame). 16 U.S.C. § 1536(b); see also 50 C.F.R. § 402.14(e). The 135-day deadline for FWS to issue its biological opinion was March 27, 2003.
- 20 See Section 7(d) of the ESA, 16 U.S.C. § 1536(d).
- 21 See *City of Tacoma, Washington*, 104 FERC ¶ 61,092 (2003).
- 22 85 FERC ¶ 61,411.
- 23 (1) California Department of Parks and Recreation. 1997. Public Opinions and Attitudes on Outdoor Recreation in California. 1997. Sacramento, California. March 1998. 72 pp. and appendices. (2) California Department of Parks and Recreation. 1993.

California Outdoor Recreation Plan. Sacramento, California. April 1994. 177 pp. (3) California Department of Parks and Recreation. 1980. Recreation Outlook in Planning District 2. Sacramento, California. April 1980. 88 pp. (4) California Department of Water Resources. 1983. The California water plan: projected use and available water supplies to 2010. Bulletin 160-83. Sacramento, California. December 1983. 268 pp. and attachments. (5) California Department of Water Resources. 1994. California water plan update. Bulletin 160-93. Sacramento, California. October 1994. Two volumes plus executive summary. (6) California State Water Resources Control Board. 1975. Water quality control plan report. Sacramento, California. Nine volumes. (7) California-the Resources Agency. Department of Parks and Recreation. 1983. Recreation needs in California. Sacramento, California. March 1983. 39 pp. and appendices. (8) Fish and Wildlife Service. California Department of Fish and Game. California Waterfowl Association. Ducks Unlimited. 1990. Central Valley habitat joint venture implementation plan: a component of the North American waterfowl management plan. U.S. Department of the Interior, Portland, Oregon. February 1990. 102 pp. (9) Forest Service. 1992. Sierra National Forest land and resource management plan. Department of Agriculture, Clovis, California. March 1992. 97 pp. and appendices. (10) State Water Resources Control Board. 1999. Water Quality Control Plans and Policies Adopted as Part of the State Comprehensive Plan. April 1999. Three enclosures. (11) Fish and Wildlife Service. Canadian Wildlife Service. 1986. North American waterfowl management plan. Department of the Interior. May 1986. 19 pp. (12) Fish and Wildlife Service. Undated. Fisheries USA: the recreational fisheries policy of the U.S. Fish and Wildlife Service. Washington, DC. 11 pp. (13) National Park Service. 1982. The nationwide rivers inventory. Department of the Interior, Washington, D.C. January 1982. 432pp.

24 16 U.S.C. §§ 803 and 808.

25 72 FERC ¶ 61,207 (1995).

26 The alternative power cost of \$40.0 per MWh is based on data obtained from the California Energy Commission.

a1 CIP funding approved for this facility.

104 FERC P 62198 (F.E.R.C.), 2003 WL 22147514