

127 FERC ¶ 62,070  
UNITED STATES OF AMERICA  
FEDERAL ENERGY REGULATORY COMMISSION

Pacific Gas and Electric Company

Project No. 2130-033

ORDER ISSUING NEW LICENSE

April 24, 2009

**INTRODUCTION**

1. On December 26, 2002, Pacific Gas and Electric Company (PG&E) filed an application for a new license, pursuant to sections 4(e) and 15 of the Federal Power Act (FPA),<sup>1</sup> for the continued operation and maintenance of the Spring Gap-Stanislaus Hydroelectric Project No. 2130 (project). The new license application was prepared pursuant to the Commission's traditional licensing process.<sup>2</sup> The project's installed capacity under this license is 87.9 megawatts (MW).<sup>3</sup> The project is located on the Middle Fork Stanislaus River (Middle Fork) and South Fork Stanislaus River (South Fork) in Calaveras and Tuolumne Counties, California, and occupies approximately 1,060 acres within the Stanislaus National Forest, managed by the U.S. Department of Agriculture - Forest Service (Forest Service).<sup>4,5</sup> As discussed below, I am issuing a new license for the project.

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<sup>1</sup> 16 U.S.C. §§ 797(e) and 808 (2006), respectively.

<sup>2</sup> 18 C.F.R. § 4.34(i) (2008).

<sup>3</sup> The installed capacity of the Spring Gap development is 6.0 MW and the existing installed capacity of the Stanislaus development is 81.9 MW. The license application cited the rated capacities of the units to be 7.0 MW and 91.0 MW, respectively. These ratings reflect the higher turbine ratings as opposed to the limiting generator capacities which, in this case, are used to determine the installed capacities of the units.

<sup>4</sup> In its application, PG&E states that the project occupies 1,049.98 acres of federal lands (administered by the Stanislaus National Forest); however, the Commission's annual charges for federal lands are based on the project's use of 1,060.98 acres of federal lands. On January 6, 2009, the Commission's Office of Executive Director issued a letter requesting PG&E to certify the number of federal acres the project occupies. In  
(continued)

## **BACKGROUND**

2. The current license for the project, issued on February 21, 1955, expired on December 31, 2004.<sup>6</sup> Since then, PG&E has operated the project under an annual license pending the disposition of its new license application.

3. On January 2, 2004, the Commission issued a public notice accepting the application and requesting motions to intervene, protests, comments, recommendations, terms and conditions, and prescriptions to be filed by March 2, 2004. The following entities filed timely, unopposed motions to intervene: American Whitewater Affiliation; California State Water Resources Control Board (Water Board); Friends of the River; Central Sierra Environmental Resources Center; Trout Unlimited; County of Tuolumne; Tuolumne Public Power Agency; Tuolumne Utilities District (Tuolumne Utilities); and the Forest Service.<sup>7</sup> Untimely motions to intervene were filed by Calaveras Public Power Agency and the County of Calaveras. These late interventions were granted in a notice issued July 18, 2005. None of the intervenors oppose the project.

4. On February 26, 2004, and March 1, 2004, respectively, the Forest Service and the U.S. Department of the Interior (Interior) filed comments, recommendations, and terms and conditions in response to the Commission's notice.

5. On March 1, 2004, PG&E submitted recommended resource measures for the Spring Gap-Stanislaus Project that replaced its originally proposed measures in the license application. These recommended resource measures were developed as a result

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addition, to further resolve this inconsistency, Article 206 requires PG&E to file a statement with supporting documentation verifying the amount of federal land occupied by the project.

<sup>5</sup> The project is located on federal lands within the Stanislaus National Forest; therefore, FPA section 23(b)(1), 16 U.S.C. § 817 (2006), requires the project to be licensed.

<sup>6</sup> See 14 FPC 556 (1955). The original license was granted on February 21, 1955, for a term of 50 years with an effective date of January 1, 1955.

<sup>7</sup> Timely unopposed motions to intervene were automatically granted by operation of Rule 214 of the Commission's Rules of Practice and Procedure. See 18 C.F.R. § 385.214 (2008).

of consensus among a relicensing collaborative group.<sup>8</sup> The specific details of these consensus measures are discussed below.

6. On September 30, 2004, Commission staff issued for comment a multi-project draft environmental impact statement (EIS), which included the evaluation of the environmental effects from PG&E's proposal with the consensus measures and alternatives for relicensing the Spring Gap-Stanislaus Project.<sup>9</sup> Comments were due by December 7, 2004. In addition, the Commission accepted oral testimony on the draft EIS at two meetings, both held on November 16, 2004, in Sonora, California. Comments were filed by the State of California – Department of Health Services, Interior, the Tuolumne County Board of Supervisors, Water Board, Tuolumne Utilities, Michael Gamerl, Forest Service, Tuolumne County Alliance for Resources and Environment, California Department of Fish and Game (California Fish and Game), Trout Unlimited, Friends of the River, Central Sierra Environmental Resource Center, PG&E, Calaveras County Water District, Clean Lakes Inc., Pinecrest Lake Resort, and the U.S. Environmental Protection Agency. Oral testimony was received from the South San Joaquin and Oakdale Irrigation Districts' (Irrigation Districts), PG&E, California Water Board, Forest Service, Central Sierra Environmental Resource Center, Tom Sawyer, and Alyce Lowry. Commission staff considered all written and oral comments when preparing the final EIS, which was issued on March 1, 2005.

7. The motions to intervene, comments, and recommendations have been fully considered in determining whether, and under what conditions, to issue this license.

## **PROJECT DESCRIPTION**

### **Project Area**

8. The Spring Gap-Stanislaus Project is located on the Middle and South Forks of the Stanislaus River in the Sierra Nevada Mountain Range of north-central California. The headwaters of the Stanislaus River originate at Kennedy Creek in the Emigrant Wilderness Area at an elevation of about 9,650 feet and the river flows in a general southwesterly direction to its confluence with the San Joaquin River in the Central Valley region. The upper regions of the project are accessible via State Highway 108 and along

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<sup>8</sup> This relicensing collaborative group included PG&E, the Forest Service, American Whitewater, Friends of the River, Trout Unlimited, County of Tuolumne, Tuolumne Public Power Agency, Tuolumne Utilities District, and Central Sierra Environmental Resources Center.

<sup>9</sup> Final EIS for the Stanislaus River Projects, FERC Project Nos. 2130, 2005, 2118, and 2067.

several Forest Service-maintained dirt roads. Traveling over Sonora Pass, Highway 108 connects State Highways 120 and 49 to U.S. Highway 395 on the eastern side of the Sierra Nevada.

9. The deeply incised Stanislaus River canyon dominates the topography in the project area with a difference of elevation around 2,000 feet from ridge top to the river. Drainage of the western slope of the Sierras near the project area is predominantly southwestward, and the Stanislaus River basin is bordered to the north by the Mokelumne River and the Tuolumne River to the south. All three of these rivers are tributaries to the San Joaquin River. Mountain peaks in the headwaters of the Stanislaus River basin reach elevations of more than 11,000 feet. Elevations in the project area range from about 1,000 to 7,300 feet. Most of the river basin, especially in the project area, is forested with major land uses including recreation, conservation, timbering, and grazing.

10. The Spring Gap-Stanislaus Project includes four developments and is intricately connected with several other licensed hydroelectric projects in the Stanislaus River watershed: The Irrigation Districts' Beardsley/Donnells Hydroelectric Project No. 2005; Tri-Dam Power Authority's (Tri-Dam Power) Sand Bar Hydroelectric Project No. 2975; PG&E's Phoenix Hydroelectric Project No. 1061; and the Irrigation Districts' Tulloch Hydroelectric Project No. 2067.<sup>10</sup>

#### Middle Fork Stanislaus River

11. Relief reservoir, the uppermost project facility, is located in the upper reaches of the watershed. The reservoir, located on Summit Creek just before its confluence with Kennedy Creek to form the Middle Fork, acts as a storage reservoir for both PG&E's Spring Gap-Stanislaus Project and the Irrigation Districts' downstream hydropower projects. From the project's Relief reservoir, water flows approximately 16 miles downstream into Donnells reservoir, part of the Irrigation Districts' Beardsley/Donnells Project.

12. The Irrigation Districts' Donnells reservoir is a storage facility usually operated to limit spill at its Donnells dam and its downstream Beardsley dam during the peak spring runoff period. At Donnells dam, which impounds Donnells reservoir, most flow is diverted into the 8-mile-long Donnells power tunnel. This power tunnel feeds Donnells powerhouse, located near the upstream end of Beardsley reservoir on the Middle Fork.

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<sup>10</sup> New licenses were issued to the Irrigation Districts for the Beardsley/Donnells Project on January 30, 2006, 114 FERC ¶ 62,081; and for the Tulloch Project on February 16, 2006, 114 FERC ¶ 62,162. An initial license was issued to Tri-Dam Power for the Sand Bar Project on September 8, 1983, 25 FERC ¶ 62,278; and a new license was issued to PG&E for the Phoenix Project on September 30, 1992, 60 FERC ¶ 62,256.

The intake to Beardsley powerhouse is located at the base of Beardsley dam. There is no bypassed reach and flow from the powerhouse is returned immediately to the river. Approximately one-mile downstream of the Beardsley dam and powerhouse is the Irrigation Districts' Beardsley Afterbay impoundment and dam. At the Beardsley Afterbay, some water is diverted through Tri-Dam Power's Sand Bar power tunnel and powerhouse.

13. Two miles downstream of Beardsley Afterbay, the water remaining in the resulting Middle Fork bypassed reach is joined by water diverted from the South Fork through the project's Spring-Gap development. After an additional two river miles, water diverted through Tri-Dam Power's Sand Bar Project is discharged back into the Middle Fork, just upstream of the project's Sand Bar diversion dam. At this point, water is diverted into the project's 11.4-mile-long Stanislaus power tunnel before discharging into the Stanislaus forebay and through the Stanislaus powerhouse. After bypassing approximately 14 miles of the Middle Fork, the diverted water is discharged back into the Middle Fork, two miles downstream of the confluence with the North Fork Stanislaus River (North Fork). Water then flows over PG&E's breached Stanislaus Afterbay dam and into the U.S. Department of Interior's Bureau of Reclamation (Reclamation) New Melones reservoir. Finally, water is diverted through Reclamation's New Melones powerhouse and into the Irrigation Districts' Tulloch reservoir and through the Tulloch powerhouse before it is discharged into the Goodwin reservoir, impounded by Goodwin dam.<sup>11</sup> The Stanislaus River then continues downstream for 58 miles before its confluence with the San Joaquin River.

#### South Fork Stanislaus River

14. The project's Pinecrest Lake (also known as Strawberry reservoir), impounded by Strawberry dam, is located in the upper reaches of the South Fork at the confluence of Herring Creek and the South Fork. Pinecrest Lake is kept as full as possible during the summer recreation months consistent with operational demands and current license conditions. Water releases are made from Pinecrest Lake for operational needs such as power generation, water supply, and minimum instream flows. The project's Philadelphia diversion dam, located on the South Fork two river miles downstream of Pinecrest Lake, diverts water into the project's Spring Gap forebay via the 4.7-mile-long Philadelphia ditch. The diverted water then flows through the Spring Gap powerhouse before discharging back into the Middle Fork, as described above.

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<sup>11</sup> Goodwin dam and reservoir have no associated hydropower generation facilities and are owned and operated by the Oakland Irrigation District, South San Joaquin Irrigation District, and Stockton East Water District.

15. South Fork water not diverted into the project's Spring Gap development flows downstream into Lyons reservoir, which is part of PG&E's Phoenix Project. The South Fork then flows approximately 20 miles before its confluence with the main stem Stanislaus River at the New Melones reservoir.

### **Project Facilities**

16. As noted above, the project consists of four developments: Relief reservoir; Pinecrest Lake; Spring Gap; and Stanislaus. The Relief development includes: (1) the 223-acre Relief reservoir; and (2) the Relief dam, a 144.5-foot-high, 560-foot-long concrete face rock masonry dam with a 63-foot-long spillway controlled by 15-foot-high flashboards.

17. The Strawberry development includes: (1) the 300-acre Pinecrest Lake; and (2) Strawberry dam, a 133-foot-high, 720-foot-long concrete face rock masonry dam with a 108-foot-long spillway controlled by 6-foot-high flashboards.

18. The Spring Gap development is composed of: (1) Philadelphia diversion dam, an 11-foot-high, 56-foot-long concrete face rock masonry overflow spillway dam that forms a 0.25-acre impoundment with a storage capacity of one acre-foot; (2) diversion dam fish screen, ladder, and associated facilities; (3) Philadelphia ditch, a 4.7-mile-long, 11-foot-wide by 3.9-foot-deep canal; (4) Spring Gap forebay, with a storage capacity of less than one acre-foot at elevation 4,876.0 [US Geological Survey (USGS)] impounded by a 13.5-foot high, 220-foot-long concrete header box with an 80-foot-long concrete overtop spillway; (5) Spring Gap penstock, a 36.75-inch to 29.5-inch diameter, 7,249-foot-long penstock; and (6) Spring Gap powerhouse containing one generating unit driven by an overhung impulse turbine with a maximum hydraulic capacity of 63 cfs.

19. The Stanislaus development is composed of: (1) Sand Bar diversion dam, a 24-foot-high, 174-foot-long timber crib overflow spillway dam that forms a 7.5-acre impoundment with a storage capacity of 45 acre-feet; (2) Stanislaus power tunnel, a 11.4-mile-long, 10.75-foot-high by 9.5-feet-wide tunnel; (3) the 16-acre Stanislaus forebay, with a storage capacity of 320 acre-feet impounded on the east by an earth-fill dam that is 55-feet-high by 400-feet-long, on the west by an earth-fill, compacted rock overlay dam that is 60-feet-high by 1,000-feet-long, and on the south by an 18-foot-wide siphon spillway; (4) Stanislaus penstock, a 118-inch-diameter 4,707-foot-long welded steel penstock; (5) Stanislaus powerhouse containing one generating unit driven by a vertical-axis Pelton turbine with a maximum hydraulic capacity of 830 cfs; (6) the 5.1-acre Stanislaus Afterbay, with a storage capacity of 32 acre-feet, impounded by a 194-foot-long timber face, steel frame dam (Stanislaus Afterbay dam) with a 15-foot-long overflow and weir spillway. The dam is breached and PG&E proposes to dismantle it.

20. There are no associated transmission lines for this project.<sup>12</sup>
21. A more detailed description of the project facilities is contained in Ordering Paragraph (B)(2).

### **Project Boundary**

22. The existing project boundary, consisting of lands necessary for the safe operation and maintenance of the project and other purposes, such as recreation, shoreline buffer, and protection of environmental resources, encompasses about 1,900 acres.
23. At the Relief development, the 223-acre reservoir is surrounded by 257 acres of project land that provides a minimum horizontal distance from the high water edge of about 22 feet and a maximum horizontal distance of about 950 feet, with typical horizontal distances from the high water edge of between 200 and 500 feet. All project land at the Relief development is within the Stanislaus National Forest.
24. At the Strawberry development, the 300-acre Pinecrest Lake is surrounded by about 97 acres of project land that provides a minimum horizontal distance from the high water edge of about 10 feet and a maximum horizontal distance of about 320 feet, with typical horizontal distances from the high water edge of about 200 feet. All project land at the Strawberry development is within the Stanislaus National Forest.
25. The project boundary at the Spring Gap development encompasses the Philadelphia diversion dam (including about 250 feet of the South Fork immediately upstream of the dam), fish ladder, fish screen and associated facilities, Philadelphia ditch (the ditch and project land on both sides is about 100 feet wide), Spring Gap forebay, penstock, emergency spillway from the forebay (the spillway and project land on both sides is about 150 feet wide), and powerhouse.
26. The project boundary for the Stanislaus development encompasses a former telephone line and access road from the Spring Gap development to the Sand Bar diversion dam (which consists of about 14 acres proposed to be removed from the project, as discussed below in "Other Issues"), the Sand Bar diversion dam (including about 3,100 feet of the Middle Fork immediately upstream of the dam), as well as the intake to the Stanislaus power tunnel and associated facilities. The boundary also includes a 50-foot-wide strip of land over the Stanislaus power tunnel, the canal leading

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<sup>12</sup> The transmission facilities required to be licensed include generator leads, station transformers, buses, and switchyards located at the powerhouses. The transmission lines connected to the project were determined to be non-jurisdictional in an order issued on December 22, 1998. *See* 85 FERC ¶ 61,411.

from the end of the power tunnel to the forebay, the emergency spillways leading from the canal and the Stanislaus forebay (the spillway and project land on both sides is about 100 feet wide), about 247 acres of land surrounding and including the Stanislaus forebay, penstock, powerhouse, and afterbay, and a 60-foot-wide right-of-way associated with Camp Nine road, a project access road.

27. Approximately 1,060 acres of land within the project boundary are federal lands managed by the Forest Service within the Stanislaus National Forest.

### **Project Recreation Facilities**

28. Only two PG&E-maintained parking areas at the Stanislaus forebay and Stanislaus powerhouse (used by anglers and boaters) are project recreation facilities currently located within the project boundary. Several other recreation facilities, however, are located on Forest Service managed lands near project facilities: (1) Relief reservoir has no developed recreational sites, but is used for dispersed recreational activities such as hiking, fishing, hunting, and camping; (2) Spring Gap powerhouse has no developed recreational sites, but provides access for angling opportunities; (3) Sand Bar diversion dam is the put-in for the Sand Bar Flat whitewater boating run and is adjacent to the Sand Bar Flat campground, which has 14 sites with paved parking spurs, tables, fire rings, vault toilets, and drinking water; and (4) Pinecrest Lake has campgrounds, picnic areas, designated swimming beaches, a barrier-free fishing pier, public restrooms, a public boat launch, hiking trails, and an amphitheater. The Pinecrest Lake beaches, fishing pier, boat, and portions of the four-mile-long Pinecrest loop trail also are located within the project boundary, but are not considered project recreation facilities under the current license, as they are maintained solely by the Forest Service.

### **Current Project Operation**

29. The Spring Gap-Stanislaus Project can store about 34,269 acre-feet of water and generates about 423,900,000 kilowatt-hours (kWh) annually. Because of the hydraulic connection among the Irrigation Districts' Beardsley/Donnells Project and Tulloch Project on the Middle Fork, these project operations must be coordinated.

30. As noted previously, the Spring Gap-Stanislaus Project's Relief reservoir is the uppermost project facility on the Middle Fork and acts as a storage reservoir for both PG&E's and the Irrigation Districts' downstream hydropower developments. In general, Relief, Donnells and Beardsley reservoirs, and Pinecrest Lake are operated to capture as much of the spring runoff flow as possible. Releases from Relief reservoir are coordinated with the Irrigation Districts to limit spill at Donnells dam and Beardsley dam during the peak spring runoff period. Once water passes through the Irrigation Districts' Donnells and Beardsley powerhouses, the Irrigation Districts' Beardsley Afterbay is operated to maintain its required minimum flow releases to the Middle Fork, and to provide water for peak power production at the Spring Gap-Stanislaus Project.



31. On the South Fork, releases from Strawberry dam on Pinecrest Lake provide water for operational needs such as power generation, water supply, and minimum instream flows. Below Pinecrest Lake, the project's Philadelphia diversion dam diverts water into the Philadelphia ditch and on into the Spring Gap forebay. Flows released from the forebay generate power at the Spring Gap powerhouse and are released to the Middle Fork upstream of Tri-Dam Power's Sand Bar powerhouse.

32. On the Middle Fork below Sand Bar powerhouse the project's Sand Bar diversion dam diverts Middle Fork flow into the Stanislaus power tunnel and on into the Stanislaus forebay and powerhouse. Flow releases from the powerhouse are released to the Middle Fork above the confluence with the South Fork.

33. Project powerhouse operations vary by season. During the high flow spring season, operations for the Irrigation Districts' Beardsley/Donnells and Tulloch powerhouses and the project's Spring Gap and Stanislaus powerhouses are often characterized by full-time, full-load run-of-river operation. Once the high flow period ends, the Tulloch powerhouse and the project's Spring Gap powerhouse continue to operate primarily in run-of-river mode, while the Donnells/Beardsley powerhouses and the project's Stanislaus powerhouse operate to provide peaking energy consistent within physical, regulatory, and transmission constraints. The Stanislaus powerhouse is commonly operated automatically to support the overall California electrical system. The Stanislaus, Donnells, Beardsley, and Sand Bar powerhouses also are used for voltage and reactive power support.

### **CONSENSUS-RECOMMENDED RESOURCE MEASURES**

34. PG&E originally proposed a number of environmental measures in its license application, but indicated that these were subject to change based on negotiations with other stakeholders to reach mutually acceptable environmental measures for a new license. This group of stakeholders, known as the Stanislaus Planning Action Team (Planning Team) was formed in 1999 and met on a regular basis.<sup>13</sup> On March 1, 2004, PG&E filed with the Commission the collaborative agreement developed by the Stanislaus Planning Team. I consider this agreement to represent the proposed measures

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<sup>13</sup> Signatories to the Planning Team Agreement for the consensus-recommended resource measures include the following: PG&E; the Forest Service; Tuolumne Utilities District; Interior's National Park Service (NPS); the Irrigation Districts (as Tri-Dam Project); Central Sierra Environmental Resources Center; Friends of the River; American Whitewater; and Trout Unlimited. Other entities, such as the Water Board and California Fish and Game participated in the Stanislaus Planning Team's negotiations, but for various reasons did not sign the agreement.

of PG&E and the other signatories to the agreement, superseding any previous recommendations that may have been made by each of the entities.

35. These measures address the following issues: (1) water year types; (2) maximum and minimum flows; (3) ramping rates; (4) Philadelphia diversion fish screen and ladder; (5) Stanislaus power tunnel fish screen; (6) fish stocking; (7) hardhead and trout monitoring; (8) special status species; (9) vegetation rejuvenation; (10) employee awareness training; (11) ground-disturbing activities; (12) noxious weeds management; (13) yellow-legged frogs; (14) bats; (15) western pond turtles; (16) heritage resource management plan; (17) recreation streamflow information; (18) recreation implementation plan; (19) Stanislaus Afterbay dam; (20) fire fuel treatment plan; (21) road management plan; and (22) Historic Properties Management Plan.

36. Also as part of the consensus-recommended measures, PG&E proposes to continue to optimize the generation potential of the Spring Gap-Stanislaus Project by cooperating with the Irrigation Districts and coordinating its operations with the Irrigation Districts' project operations. PG&E does not propose any specific modifications to the existing operation of the Spring Gap-Stanislaus Project.

#### **SECTION 4(e) OF THE FPA**

37. Section 4(e) of the FPA<sup>14</sup> provides that the Commission may issue a license for a project located on a federal reservation only if it finds that the license will not interfere or be inconsistent with the purpose for which the reservation was created or acquired.<sup>15</sup>

38. The Stanislaus National Forest was established in 1897.<sup>16</sup> At that time, the Organic Administration Act of 1897<sup>17</sup> stated that all national forest system lands were established and administered only for watershed protection and timber production. No evidence or allegation exists in this proceeding to demonstrate that relicensing the Spring Gap-Stanislaus Project would interfere with the purposes of the Stanislaus

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<sup>14</sup> 16 U.S.C. § 797(e) (2006).

<sup>15</sup> Reservations are defined in section 3(2) of the FPA, 16 U.S.C. § 796(2) (2006).

<sup>16</sup> The Stanislaus Forest Reserve was established by Presidential Proclamation on February 22, 1897, 29 Stat 898. Section 4(e) of the FPA, 16 U.S.C. § 797(e) (2006), authorizes the Commission to issue licenses for projects that are located on reservations of the United States, and section 3(2) of the FPA, 16 U.S.C. § 796(2) (2006), defines reservations as including national forests.

<sup>17</sup> 16 U.S.C. § 475 (2006).

National Forest, within which the project is located. I therefore find that this license, as conditioned, will not interfere or be inconsistent with the purposes for which the Stanislaus National Forest was created.

39. FPA section 4(e) further requires that Commission licenses for projects located within federal reservations must include all conditions that the Secretary of the department under whose supervision the reservation falls shall deem necessary for the adequate protection and utilization of such reservation. The Spring Gap-Stanislaus Project occupies approximately 1,060 acres of federal land within the Stanislaus National Forest, under the supervision of the Forest Service.

40. On November 30, 2004, the Forest Service initially filed 43 section 4(e) conditions for the project. PG&E subsequently requested administrative hearings and submitted requests for alternative conditions in letters to the Forest Service dated December 16, 2005.<sup>18</sup> On November 30, 2006, the Forest Service revised its conditions in response to PG&E's request; specifically, the Forest Service revised conditions 19 and 21.<sup>19</sup> Additionally, by letters filed April 10, 2007, and October 3, 2007, the Forest Service required small changes to the wording of condition 29.

41. The original conditions, as subsequently revised, are included in Appendix B of this order and required as conditions of this license by Ordering Paragraph (E). Condition 1 reserves the Forest Service's authority to modify these final terms and conditions in the event that the parties enter into a settlement agreement, resolving issues raised in this relicensing proceeding, in order to provide terms and conditions consistent with the terms of any such settlement. Condition 2 reserves the Forest Service's right to modify the section 4(e) conditions if any final biological opinion is issued for this project by the U.S. Fish and Wildlife Service (FWS), or any certification is issued for this project by the Water Board.

42. The remaining conditions require: (3) Forest Service approval prior to any new construction on Forest Service lands; (4) Forest Service approval prior to making any changes to the project; (5) consultation with the Forest Service with regard to measures needed to ensure protection and utilization of the National Forest resources affected by

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<sup>18</sup> Section 241 of the Energy Policy Act of 2005 amended FPA sections 4(e) and 18 and added a new section 33. Under the amendment, any party to a Commission license proceeding may request a trial-type hearing on disputed issues of material fact concerning 4(e) conditions and propose alternative conditions.

<sup>19</sup> In a letter filed on September 5, 2006, PG&E indicated that it resolved its dispute with the Forest Service and withdrew its requests for administrative hearings and alternative conditions.

the project; (6) assurance that National Forest resources are restored to satisfactory condition prior to any surrender of the license; (7) a hazardous substances plan; (8) requirements for the use of explosives; (9) a fire prevention, response, and investigation plan; (10) unrestricted road use by federal authorities; (11) restriction of project vehicles to specifically designated access routes; (12) maintenance of the project to standards acceptable to the Forest Service; (13) a plan to protect safety during construction and any ground-disturbing activity; (14) restrictions for pesticide use; (15) an erosion control plan; (16) the project being subject to all valid rights and claims by third parties; (17) complying with all laws and regulations; (18, 19, and 21) protection of U.S. lands and indemnification of the U.S. for any violations; (20) avoiding disturbance to all land survey monuments, property corners, and boundary markers; (22) identifying and reporting of all hazardous conditions within the project boundary; (23) maintaining suitable road and trail crossings; (24) Forest Service reservation to use any part of the licensed area on National Forest System lands for any purpose, if it does not interfere with the project; (25) consulting with the Forest Service before erecting safety signs; (26) a fuel treatment plan; (27) a road management plan; (28) provisions for easements to allow public access to Huckleberry trail at Kennedy Meadows and to the fishing trail and Spring Gap foot-bridge at the Spring Gap Development; (29) recreation facilities development, rehabilitation, and administration; (30) annually providing recreational boating streamflow information to the public; (31) a historic properties management plan; (32) ramping rates; (33) annually determining the forecasted water-year type; (34) providing and maintaining required streamflows and reservoir drawdowns at the four project developments; (35) developing a spill channel management plan; (36) providing annual employee awareness training regarding special status species and noxious weeds; (37) annual review of the list of special status species and a resurvey of suitable habitat every 10 years; (38) consulting with the Forest Service regarding any proposed activities not specifically addressed in the Commission's National Environmental Policy Act (NEPA)<sup>20</sup> document; (39) developing detailed environmental monitoring plans; (40) maintaining and operating Philadelphia diversion fish screen and ladder; (41) a noxious weed management plan; (42) vegetation management measures; and (43) wildlife management measures.

43. The Forest Service's final 4(e) conditions are consistent with the Stanislaus Planning Team consensus-recommended measures.

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<sup>20</sup> 42 U.S.C. §§ 4321-4347 (2006).

## **WATER QUALITY CERTIFICATION**

44. Under section 401(a)(1) of the Clean Water Act (CWA),<sup>21</sup> the Commission may not issue a license authorizing the construction or operation of a hydroelectric project unless the state water quality certifying agency either has issued water quality certification for the project or has waived certification by failing to act on a request for certification within a reasonable period of time, not to exceed one year. Section 401(d) of the CWA provides that the certification shall become a condition of any federal license that authorizes construction or operation of the project.<sup>22</sup>

45. On December 5, 2002, PG&E applied to the Water Board for certification, which the Water Board received on December 10, 2002. Since that date, PG&E has withdrawn and refiled its application each year, for a total of five times. On September 16, 2008, the Water Board issued certification for the project that includes 33 conditions, which are set forth in Appendix A of this order and incorporated into the license by Ordering Paragraph (D).<sup>23</sup>

46. The certification includes requirements for annually determining water year type; reservoir water level management; minimum, maximum, recreational, and supplemental streamflows; plans for monitoring compliance with specified streamflow; development of a water temperature trigger to govern the initiation of supplemental flows; ramping rates; modifying flow requirements during critically dry years; temporary flow modifications; facility modifications; a new fish screen at the Stanislaus power tunnel; the development of various environmental monitoring plans; making recreational streamflow data available to the public; installation and maintenance of staff gage/depth indicators; obtaining all necessary permits; plans to monitor water quality; trace metal analysis for

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<sup>21</sup> 33 U.S.C. § 1341(a) (1) (2006).

<sup>22</sup> 33 U.S.C. § 1341(d) (2006).

<sup>23</sup> The plans and conditions included in the certification are generally the same as the recommendations made by Commission staff in the final EIS; however, one condition included in the certification was not recommended by Commission staff because the minor additional environmental benefits did not justify the high cost of the measure. In the final EIS, Commission staff did not recommend designing the Stanislaus power tunnel fish screen to meet criteria needed to exclude trout fry, as required by certification condition 8, because the prevailing flow velocities would exceed habitat conditions preferred by trout fry. As this measure is required by the water quality certification, however, it is required by the license. *See* final EIS at page 419 for a complete discussion of the measures not recommended by staff.

sediments; a soil erosion plan; provisions to minimize hazardous substances spills; a spill channel maintenance plan; coordinating project operations with the Irrigation District's Beardsley/Donnells Project; maintaining and operating the Philadelphia diversion dam fish screen and fish ladder; and funding for fish stocking.

47. The certification also contains several general conditions, including a reservation of authority for the Water Board to modify the conditions of the certification to address future changes in water quality standards or project operations and any project-related unanticipated adverse effects on water quality, or as appropriate to coordinate the operations of the project and other hydrologically connected water development projects, where coordination of operations is necessary to achieve water quality standards or protect beneficial uses of water.

48. By letters filed on October 3, 2008, and October 14, 2008, respectively, Tuolumne Utilities and PG&E informed the Commission that each had filed with the Water Board timely petitions for reconsideration of the water quality certification. While the petitions address several issues, the issue of main concern is condition 4, which relates to the requirements regarding Pinecrest Lake levels. Currently, at the request of Tuolumne, the Water Board is holding the petitions in abeyance to permit Tuolumne Utilities time to acquire reservoir operations models that it believes will provide a better understanding of the effect of the Water Board's certification conditions on the availability of water for consumptive use. I discuss Pinecrest Lake levels and the concerns of both Tuolumne Utilities and PG&E below, in "Discussion."

### **THREATENED AND ENDANGERED SPECIES**

49. Section 7(a)(2) of the Endangered Species Act of 1973,<sup>24</sup> (ESA) requires federal agencies to ensure that their actions are not likely to jeopardize the continued existence of federally listed threatened and endangered species, or result in the destruction or adverse modification of designated critical habitat.

50. Commission staff evaluated potential effects of relicensing on two federally listed threatened species: the valley elderberry longhorn beetle (VELB) and the bald eagle. The draft EIS served as the Commission's Biological Assessment (BA) for ESA consultation.<sup>25</sup> Staff concludes that relicensing the project would have no effect on VELB because no suitable habitat is present. Staff sought concurrence with the

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<sup>24</sup> 16 U.S.C. § 1536(a) (2006).

<sup>25</sup> See final EIS at pages 223 through 232.

Commission's findings from FWS by letter dated October 5, 2004, and FWS concurred by letter dated December 13, 2004.<sup>26</sup>

## **SECTION 18 FISHWAY PRESCRIPTIONS**

51. Section 18 of the FPA<sup>27</sup> provides that the Commission shall require the construction, maintenance, and operation by a licensee of such fishways as may be prescribed by the Secretary of Commerce or of the Interior, as appropriate.

52. By letter filed March 1, 2004, the Secretary of the Interior requested that the Commission reserve authority to prescribe fishways. Consistent with Commission policy, Article 404 of this license reserves the Commission's authority to require fishways that may be prescribed by Interior for the Spring Gap-Stanislaus Project.

## **NATIONAL HISTORIC PRESERVATION ACT**

53. Under section 106 of the National Historic Preservation Act (NHPA),<sup>28</sup> and its implementing regulations,<sup>29</sup> federal agencies must take into account the effect of any proposed undertaking on properties listed or eligible for listing in the National Register of Historic Places (defined as historic properties) and afford the Advisory Council on Historic Preservation a reasonable opportunity to comment on the undertaking. This generally requires the Commission to consult with the State Historic Preservation Officer (SHPO) to determine whether and how a proposed action may affect historic properties, and to seek ways to avoid or minimize any adverse effects.

54. To satisfy these responsibilities, the Commission executed a PA with the California SHPO on September 25, 2005,<sup>30</sup> and invited PG&E, the Bureau of Land Management, Stanislaus National Forest, the Irrigation Districts (as Tri-Dam Project),

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<sup>26</sup> Staff also concludes that relicensing the project would not be likely to adversely affect the bald eagle. The bald eagle was subsequently removed from the threatened and endangered species list, effective August 8, 2007 [72 Fed. Reg. 37,346 (July 9, 2007)]; thus, it is not subject to ESA consultation. Nonetheless, the FWS concurred with staff's determination in its December 13, 2004 letter.

<sup>27</sup> 16 U.S.C. § 811 (2006).

<sup>28</sup> 16 U.S.C. § 470 (2006).

<sup>29</sup> 36 C.F.R. Part 800 (2008).

<sup>30</sup> The Commission issued the final PA on May 23, 2005.

Bureau of Indian Affairs, Chicken Ranch Tribal Council, Washoe Tribe of Nevada and California, Calaveras Band of MiWuk Indians, American Indian Council of Mariposa County, and the Tuolumne Me-Wuk Tribe to concur with the stipulations of the PA. PG&E concurred with the PA but no other party responded to the Commission's request for concurrence. The PA requires PG&E to implement the associated Historic Properties Management Plan (HPMP) for the term of any new license issued for this project. Execution of the PA demonstrates the Commission's compliance with section 106 of the NHPA. Article 407 requires PG&E to implement the PA and HPMP.

### **RECOMMENDATIONS OF FEDERAL AND STATE FISH AND WILDLIFE AGENCIES PURSUANT TO SECTION 10(j) OF THE FPA**

55. Section 10(j)(1) of the FPA,<sup>31</sup> 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,<sup>32</sup> to "adequately and equitably protect, mitigate damages to, and enhance fish and wildlife (including related spawning grounds and habitat)" affected by the project.

56. On January 2, 2004, the Commission issued a public notice that the project was ready for environmental analysis. No recommendations pertaining to fish and wildlife resources were filed by either FWS or California Fish and Game pursuant to the provisions of section 10(j) of the FPA.

### **DISCUSSION**

#### **Forest Service and Interior Recommendations**

57. On January 2, 2004, the Commission issued a public notice that the project was ready for environmental analysis. In response to the Commission's notice, the Forest Service filed seven recommendations pursuant to 10(a) of the FPA on November 30, 2004, along with its final 4(e) terms and conditions. As part of its final 4(e) terms and conditions, the Forest Service bracketed portions of seven conditions that were not within its jurisdiction and submitted those bracketed portions as 10(a) recommendations. Six of these recommendations address PG&E obtaining approval from the Water Board on proposed modifications to specified streamflows, implementation of the water temperature trigger, and development of the annual Pinecrest Lake drawdown curve. The seventh 10(a) recommendation addresses utilizing USGS gages for compliance purposes as they relate to ramping rates, minimum stream flows,

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<sup>31</sup> 16 U.S.C. § 803(j)(1) (2006).

<sup>32</sup> 16 U.S.C. §§ 661 (2006) *et seq.*



and daily flows. These 10(a) recommendations are generally consistent with the Water Board's certification conditions (Appendix A), and are thus required as part of this license.

58. On March 1, 2004, Interior, on behalf of the National Park Service, filed seven recommendations pursuant to 10(a) of the FPA that pertain to recreational resources. These recommendations address submittal of a recreation plan; providing recreational boating streamflow information to the public; providing an instream recreational boating flow at Sand Bar dam reach, Middle Fork, and Relief reach; providing whitewater boating releases in Sand Bar dam reach; maintaining target lake levels at Pinecrest Lake; and upgrading recreation facilities at Pinecrest Lake. These 10(a) recommendations are generally consistent with the Water Board's certification conditions (Appendix A) and the Forest Service's final 4(e) conditions (Appendix B), and are thus required as part of this license.

### **Drawdown Curves, Instream Flows, and Ramping Rates**

59. In the final EIS, Commission staff recommends, consistent with Stanislaus Planning team consensus-recommended measure 30, developing annual drawdown curves for Relief reservoir. These drawdown curves would enable PG&E to meet the staff-recommended minimum and maximum instream flows for the Relief reach, which are dependent on the timeframe and water-year type. These instream flows would more closely mimic the natural hydrograph and likely enhance aquatic habitat conditions and improve, or at least maintain, the existing rainbow and brown trout fishery in this reach.

60. To further mimic the natural hydrograph, staff also recommends a ramping rate in the Relief, Sand bar, Pinecrest, and Philadelphia reaches, of no more than six inches-per-hour for increases and decreases in regulated minimum instream flows and daily flows, which represents stage changes based on natural events in the Stanislaus River watershed.<sup>33</sup>

61. In the final EIS, staff recommends, consistent with Stanislaus Planning team consensus-recommended measure 31, minimum daily flows for the Sand Bar dam reach that are dependent on the timeframe and water-year type. Staff also recommends minimum supplemental flow releases and a 2-day recreational streamflow event for the Sand Bar dam reach in the third of three consecutive years that such a flow event has not otherwise occurred. Overall, these recommended flows would enhance aquatic habitat for a variety of species, including resident trout species and foothill yellow-legged frogs,

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<sup>33</sup> See final EIS at pages 413 through 415.

and provide a predictable period when whitewater boating opportunities would be available in this reach.<sup>34</sup>

62. In the final EIS, staff recommends, consistent with Stanislaus Planning team consensus-recommended measure 32, a 5 cfs minimum streamflow between Strawberry dam and Herring Creek and minimum streamflows for the Pinecrest and Philadelphia reaches that are dependant on water-year types. These staff recommended instream flows are identical for the Pinecrest and Philadelphia reaches represent a balancing between numerous water demands for South Fork water, including fish habitat, consumptive water supply, recreation, and power generation. These measures would reduce summer temperatures in the South Fork downstream of Pinecrest Lake, and in turn increase suitable habitat for trout and enhance overall aquatic habitat for a variety of species. Staff further concludes that these minimum instream flows would accommodate the higher minimum instream flows for the Lyons reach as specified in PG&E's Phoenix Project license.<sup>35</sup>

63. Commission staff's recommendations in the final EIS pertaining to drawdown curves, instream flows, and ramping rates, as previously discussed, are consistent with the Stanislaus Planning Team consensus-recommended resource measures. These measures also are consistent with the water quality certification conditions (Appendix A) and Forest Service conditions (Appendix B), and thus are required as part of this license.

### **Removal of Stanislaus Afterbay Dam**

64. As previously noted, the Stanislaus Afterbay dam is located on the Middle Fork, approximately 0.4 mile downstream of the Stanislaus powerhouse. This dam was constructed in 1962 to attenuate rapid changes in flows as a result of operations at the Stanislaus powerhouse in the downstream reach of the Stanislaus River to Melones reservoir. With the construction of Reclamation's New Melones reservoir in 1982, however, the Stanislaus Afterbay dam occasionally becomes submerged during high water levels at the New Melones reservoir and no longer serves its intended purpose. In addition the afterbay dam was breached during a storm event in 1997 and is currently non-functional.

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<sup>34</sup> *Id.* at pages 415 through 416.

<sup>35</sup> The minimum instream flow released from Lyons reservoir, a component of the Phoenix Project No. 1061, will increase when the Spring Gap-Stanislaus Project is relicensed, in accordance with Article 105 of the current license for the Phoenix Project [60 FERC ¶ 62,256 (1992)].

65. Not only is the breached Stanislaus Afterbay dam non-functional, it also fragments the whitewater boating reach of the Middle Fork. The whitewater boating put-in for the Middle Reach is located approximately 0.2 mile upstream of the breached afterbay dam and the river passes through sections of the dam with missing timber facing and drops onto logs and rocks with some exposed rebar. To bypass the breached afterbay dam, boaters typically must exit the river on the north side, portage around the dam, and put-in downstream of the drop. It is possible that advanced boaters may be tempted to run the drop created by the dam or that novice boaters could miss the portage, especially during high water, and be washed through the breached structure. Although the chances of such an occurrence are low, if either of these events were to occur, the likelihood of injury to the boater would be high. Removing the dam structure would reduce the likelihood of an accident on the run and may create new boating opportunities for boaters that are currently intimidated by the breached dam. To protect public safety, PG&E proposes to remove the steel and timber superstructure of the Stanislaus Afterbay dam and Articles 302 and 303 of the license contain requirements regarding the dam's removal, including the submittal of various plans, design drawings, and specifications and the completion of removal activities within 2 years of license issuance.<sup>36</sup>

66. In addition, the Water Board's certification (Appendix A) requires PG&E, prior to the removal of the Stanislaus Afterbay dam, to develop and implement measures to protect water quality, including development of a water quality monitoring program and implementation of Best Management Practices (condition 11), sampling sediments within the Stanislaus Afterbay for trace metals and proposing methods for appropriate disposal (condition 12), and preparing and implementing plans to minimize soil erosion and loss of topsoil (condition 13). Article 401 requires that these plans be filed with the Commission. Implementing these conditions would ensure environmental resources are protected during removal of the Stanislaus Afterbay dam.

### **Pinecrest Lake Levels**

67. In the final EIS, staff recommends, consistent with Stanislaus Planning Team consensus-recommended measure 32 and Forest Service condition 34, the development of annual drawdown curves for Pinecrest Lake based on each year's forecasted hydrological conditions. Staff concludes this curve should be developed in consultation with the Forest Service, the Water Board, California Fish and Game, and Tuolumne Utilities, and stated that experience gained in collaboratively developing past drawdown

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<sup>36</sup> Since the date the license application was filed, PG&E implemented enhanced public safety measures to prevent adverse impacts to the public as an interim measure until the dam is removed. These measures included installing signs and barriers upstream and downstream of the dam and removing the remaining flashboards.

curves would enhance the accuracy of subsequent curve development. Staff also concludes that implementing these drawdown curves would ensure sufficient water was available to meet numerous ecological, consumptive, recreational, and power generation operational objectives. Specifically, these objectives include assurance that the downstream consumptive water supply objectives of Tuolumne Utilities are met and that the water surface of Pinecrest Lake is maintained to sufficiently support recreational activities.<sup>37</sup>

68. The Water Board's certification conditions 4, 5, and 6 also address Pinecrest Lake water levels; however, subtle differences exist between the Water Board's certification conditions and Forest Service condition 34. The Forest Service condition includes specific lake level target elevations, but if targets cannot be met, condition 34 allows for the annual development of a lake level drawdown curve through a collaborative process. The Water Board's condition, however, includes less flexible target lake elevations and does not allow for collaboration if target lake levels cannot be achieved.

69. Tuolumne Utilities and PG&E support Forest Service condition 34 regarding the development of an annual drawdown curve for Pinecrest Lake and disagree with the Water Board's certification condition. Specifically, they state that the Water Board's certification rejects annual consultation, instead requiring a unilateral approach that focuses primarily on maintaining fixed lake levels for recreational purposes in lieu of managing lake levels to meet all operational objectives, as required by Forest Service condition 34. Tuolumne Utilities is concerned that the Water Board's requirement to maintain Pinecrest Lake target levels above 5,610 feet mean-sea-level (msl) and release only the required minimum flows if that target elevation is not possible, may prevent Tuolumne Utilities from obtaining its full consumptive water supply from PG&E.

70. In response to the Water Board's certification, Tuolumne Utilities filed a petition with the Water Board requesting a review of the certification's conditions. To support its argument, Tuolumne Utilities provided additional data, including several calculations based on scenarios taking into account different water years and future water demands in the context of certification condition 4. Tuolumne Utilities' calculations demonstrate that if Pinecrest Lake levels cannot be maintained above 5,610 feet msl, then releasing flows only to meet the required instream flows and Spring Gap powerhouse demand from the end of spill through Labor Day may compromise downstream water rights held by Tuolumne Utilities. Commission staff's analysis of the information provided by Tuolumne Utilities also suggests that certification condition 4 may compromise Tuolumne Utilities' downstream water rights. Staff maintains that collaboratively developing and distributing an annual "best fit" curve for Pinecrest Lake would enable

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<sup>37</sup> See final EIS at pages 266 through 267.

PG&E to meet the flow regime specified for the predicted water-year type. In turn, the proposed and recommended flow regime and reservoir water level management would serve to enhance habitat and recreational use and enable water demands for consumptive use and power generation to be met.<sup>38</sup>

71. Despite this possible impact, the fact remains that Forest Service condition 34 and certification condition 4 do not conflict and PG&E would be capable of complying with both mandatory conditions. As described above, both mandatory conditions would provide for annual consultation with the Forest Service and the Water Board to develop an annual Pinecrest Lake drawdown curve. Final 4(e) condition 34 also requires that PG&E obtain approval from both the Forest Service and Water Board on its proposed drawdown curve prior to implementation, which would provide an opportunity for both agencies to provide input on the annual development of this curve. If agreement were not reached between both the Forest Service and the Water Board, however, the Water Board would require PG&E to implement the certification conditions regarding Pinecrest Lake levels, which are more restrictive than the requirements set forth in Forest Service condition 34.

### **Coordination Agreement**

72. In the final EIS, Commission staff recommends adoption of PG&E's proposal to coordinate operations of the Spring Gap-Stanislaus Project with the operations of the Irrigation Districts' Beardsley/Donnells Project and Tri-Dam Power's Sand Bar Project.<sup>39</sup> A Coordinated Operations Agreement between PG&E, the Irrigation Districts, and Tri-Dam Power Authority is required by Article 402 of the license for the Beardsley/Donnells Project, issued January 30, 2006.<sup>40</sup> A Coordinated Operations Agreement was filed with the Commission by the Districts on January 31, 2007, and was

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<sup>38</sup> *Id.* pages 416 through 418.

<sup>39</sup> This coordination would establish protocols for coordinated operations and, in particular, enable PG&E to call for: (1) the curtailment of flows through the Sand Bar powerhouse to avoid regulated flows in the Sand Bar dam reach significantly in excess of the specified minimum daily flows, minimum supplemental flows, and recreation streamflow events during periods when Beardsley dam is not spilling; and (2) the operation of Sand Bar powerhouse to provide sufficient inflow at Sand Bar diversion dam to maintain the specified minimum daily flows and minimum supplemental flows, and to provide required recreational boating streamflow events.

<sup>40</sup> *South San Joaquin Irrigation and Oakdale Irrigation District*, 123 FERC ¶ 62,021 (2006).

approved by the Commission on November 24, 2008.<sup>41</sup> This Coordinated Operations Agreement incorporates the measures recommended by staff in the final EIS for coordinated project operations between the Spring Gap-Stanislaus, Beardsley/Donnells, and Sand Bar projects.<sup>42</sup>

73. The Water Board's certification condition 16 (Appendix A) requires coordinated operations between the project and the Beardsley/Donnells Project. Article 402 of this license requires PG&E also to coordinate Spring Gap-Stanislaus Project operations with the Tri-Dam Power's Sand Bar Project operations, consistent with the Commission-approved Coordinated Operations Agreement.

### **Sand Bar Dam Reach Gage**

74. In the final EIS, staff concludes that the existing USGS gage no. 11293200, located downstream of the Sand Bar diversion dam, is rated to only measure flows up to 70 cfs, and that there is also uncertainty regarding the frequency of stage data recordings. Staff recommends that USGS gage no. 11293200 be modified or replaced with a new stream gage to ensure compliance with the daily flow releases up to 100 cfs, minimum supplemental flows up to 400 cfs, recreational boating flows of at least 700 cfs for the Sand Bar reach, and ramping rates required by this license. Article 403 of this license, therefore, requires PG&E to either modify or replace USGS gage no. 11293200 to ensure documentation of compliance with flows and ramping rates specified in this license for the Sand Bar dam reach.<sup>43</sup>

### **Huckleberry Trail**

75. Access to project lands and waters at Relief Reservoir is available from Highway 108 by the one-mile-long paved road to Kennedy Meadow Resort and a three-mile-long portion of the Forest Service's Huckleberry Trail. PG&E currently owns the land associated with the Kennedy Meadow Resort but it is not located within the project boundary.

76. In the final EIS, Commission staff recommends that Huckleberry Trail, from the northern edge of the PG&E-owned land at Kennedy Meadows (to and including Forest

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<sup>41</sup> *South San Joaquin Irrigation and Oakdale Irrigation District*, 125 FERC ¶ 62,178 (2008).

<sup>42</sup> *See* final EIS at pages 76 through 79.

<sup>43</sup> *Id.* at pages 409 through 410.

Service trail no. 53-20E34) to the point where this trail intersects the existing project boundary at Relief Reservoir, be included in the project boundary of a new license.

77. Forest Service condition 28 (Rights-of-Way) requires that, within six months of license issuance, PG&E initiate the process to provide an easement to the Forest Service across PG&E-owned property at Kennedy Meadows for public use of the Huckleberry Trail and access into the Emigrant Wilderness. The condition also requires that PG&E issue the easement within two years of license issuance subject to all necessary regulatory approvals. With this easement, the Forest Service would provide public access to Huckleberry Trail and the Emigrant Wilderness. Based on comments provided by PG&E and the Forest Service regarding this easement and public access to Relief reservoir, I find it unnecessary, at this time, to include this portion of Kennedy Meadows and Huckleberry Trail within the project boundary. If, at any time, public access to Relief reservoir is precluded, however, the Commission can require PG&E to provide appropriate access.

### **Noxious Weed Management**

78. PG&E's proposed Noxious Weed Management Plan identifies several measures that it would take to control the spread of noxious weeds. PG&E's proposed plan and the corresponding Forest Service condition 41 do not address education of visitors to project recreational facilities. Recreational activity is an important potential source of weed introduction and spread. The addition of such a measure to PG&E's proposed visitor education and information plan would increase visitor awareness of this problem and could serve as an important weed management tool. Article 405, therefore, requires PG&E to include in its Noxious Weed Management Plan measures to disseminate information regarding noxious weed control to the recreating public, in coordination with PG&E's proposed Visitor Education and Information Plan.

### **Bat Houses**

79. Maintenance and recreation activities have the potential to disturb bat species that use project facilities for roosting. Also, proper building maintenance may require excluding bats from project facilities because of human health issues associated with bat droppings. PG&E proposes to install up to three bat houses within the project area and provide employee training to minimize disturbance of bats at Spring Gap-Stanislaus Project facilities. This proposed measure is consistent with Forest Service condition 43; however, no specific guidelines are provided by PG&E or by the Forest Service condition as to the design, placement, or maintenance of the bat houses. Article 406, therefore, requires PG&E to consult with the Forest Service regarding design, placement, and maintenance of the bat houses and file the information with the Commission for approval.

### **Pinecrest Lake Recreation**

80. Pinecrest Lake, and the land surrounding it, are within the Stanislaus National Forest and managed by the Forest Service. Recreational use at Pinecrest Lake has increased substantially over the term of the current license; however, the infrastructure and resource protection measures currently in place are not adequate to meet this existing and anticipated future demand for recreational resources. Currently, PG&E provides minimal support for the many types of recreation that occur at the lake.<sup>44</sup>

81. The site-specific recreation measures PG&E proposes and the Forest Service requires (condition 29) for Pinecrest Lake will improve access to project waters by improving parking, boat launch and dock facilities, fish cleaning stations, trails, and beach and swimming facilities. The expansion and modernization of public restrooms would better accommodate the current level of use and protect project waters from degradation because of unsanitary practices that result from insufficient restroom capacity. In addition, the required facilities for disabled visitors will improve barrier-free access to recreational resources and create new recreational opportunities. Together, these measures will improve the recreational experience and help to protect scenic and wildlife resources in the vicinity of Pinecrest Lake.<sup>45</sup>

82. PG&E also proposes an annual contribution to the Forest Service for the operation and management of Pinecrest Lake day-use facilities. In addition to requiring this funding, Forest Service condition 29 also requires PG&E to file, within one year of license issuance and for Commission approval, a recreation implementation plan that includes a detailed conceptual recreation plan, implementation schedules, detailed steps for the planning, design, and construction for the required rehabilitation and construction work, and protocols for continued consultation. This recreation implementation plan will provide a cohesive document containing all necessary elements for the management and development of appropriate recreational facilities at the Spring Gap-Stanislaus Project.

### **Project Boundary**

83. The final EIS recommends the following additions to the project boundary: (1) the access roads to USGS gage no. 1129500, on the South Fork downstream of Herring Creek, and USGS gage no. 1129720, on the South Fork downstream of the Philadelphia diversion dam, and the approximately 0.1-acre gaging station sites, because these gages serve project purposes and would enable documentation of compliance with

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<sup>44</sup> See final EIS pp. 260-267.

<sup>45</sup> *Id.* pp. 419-421.



required minimum flows; (2) any land required for five cfs flow measuring devices downstream of the Relief and Strawberry dams, if outside the existing project boundary (staff estimates this could be up to a total of 0.2 acre), because these gages serve project purposes and would enable documentation of compliance with required minimum flows; (3) the portion of Forest Service Road 4N05 that is used exclusively for access to the Stanislaus forebay (about 1.5 miles), because it is needed to ensure access for operation and maintenance of the forebay, upper end of the penstock, and spill channel; (4) the unclassified road that leads from Forest Service Road 4N13 to the Philadelphia diversion dam (about 0.3 mile), because it is needed to ensure access for operations and maintenance of the diversion dam, fish ladder, fish screen, and intake to the Philadelphia ditch; and (5) the portion of Forest Service Road 4N01 that is used exclusively by PG&E for winter access to the Spring-Gap forebay (about 6 miles), because it is needed to ensure access for operations and maintenance of the forebay and spill channel.

84. In a letter filed with the Commission on June 3, 2005, PG&E requests that the 6-mile-long segment of Forest Service Road 4N01 not be included in the project boundary because the road is not used exclusively for project purposes during all seasons. PG&E states that while the road is plowed in the winter for PG&E's exclusive access to project facilities, the road is used extensively for non-project recreation access during the remainder of the year. Although it may be true that this 6-mile-long stretch of road is not used exclusively to access project facilities during all seasons, the road is still necessary for project purposes during these times. In addition, PG&E does use the road exclusively for project purposes during the winter. Based on Commission staff's analysis in the final EIS, therefore, I conclude that this 6-mile stretch of Forest Service road is necessary for project purposes and should be brought into the project boundary.<sup>46</sup>

85. In addition, while the current project boundary includes the two existing PG&E-maintained parking areas, it does not include all of the existing Forest Service recreation facilities that are needed for project purposes. Recreational use at Pinecrest Lake has increased substantially over the term of the current license and the infrastructure and resource protection measures currently in place are not adequate to meet the existing and anticipated future demand for recreational resources. Thus, PG&E proposes and the Forest Service requires (condition 29) the rehabilitation of the Pinecrest day-use area (including the boat ramp, beaches and picnic area, day use/boat trailer parking, amphitheater, and fishing pier), the rehabilitation of the four-mile loop trail around Pinecrest Lake, the construction of a new day-use area on the east shore of Pinecrest Lake, and the potential new day-use parking areas that may be identified in the traffic/circulation/parking plan. Based on staff's analysis in the final EIS, I conclude that these facilities are necessary for project purposes; therefore any portion of these facilities

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<sup>46</sup> See final EIS at pages 327 through 328.

not currently located within the current project boundary also must be brought into the boundary.<sup>47</sup>

86. PG&E also proposes to remove from the project boundary a former telephone line and access road that runs from the Spring Gap development to the Sand Bar diversion dam because the telephone line is no longer used for project purposes. The 14-acre parcel, which is now an informal trail used primarily by anglers, had been cleared of all structures associated with the telephone line and remains in a fairly natural state. Based on staff's analysis in the final EIS, I conclude that this former telephone line is no longer necessary for project operations and the project boundary no longer needs to include that 14-acre parcel.<sup>48</sup> This removal is reflected in the applicant's proposed exhibit G maps.

87. Article 203 requires PG&E to file revised exhibit G drawings that include a revised project boundary that encompasses the gaging sites, project roads, and existing project recreation facilities in their entirety, as described above.

### **SUMMARY OF LICENSE REQUIREMENTS**

88. As summarized below and discussed in greater detail elsewhere in this order, this license requires a number of measures to protect and enhance fish, wildlife, water quality, recreation, and cultural resources at the Spring Gap-Stanislaus Project.

89. PG&E is required to develop annual drawdown curves for Relief reservoir and Pinecrest Lake. In addition, PG&E is required to provide minimum instream flows for the Sand Bar dam, Pinecrest, and Philadelphia reaches that are dependent on the timeframe and water-year type and provide minimum supplemental flow releases and occasional 2-day recreational boating streamflow events for the Sand Bar dam reach. The annual drawdown curves for each reservoir would enable PG&E to meet the required instream flows and these flows would mimic the natural hydrograph. These measures would enhance aquatic habitat for a variety of species and represent a balancing between numerous water demands for Stanislaus River water, including fish habitat, consumptive water supply, recreation, and power generation uses.

90. PG&E is required to construct a fish screen at Stanislaus power tunnel. A properly functioning fish screen would prevent most fish from entering the power tunnel. At a minimum, this would enable fish that would otherwise have been entrained to contribute to the popular wild trout fishery in the Spring Gap reach and the Sand Bar reach, downstream of the Sand Bar diversion dam.

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<sup>47</sup> *Id.* at pages 264 through 266.

<sup>48</sup> *Id.* at pages 325 through 326.

91. PG&E is required to rehabilitate and improve recreational facilities associated with the day-use area at Pinecrest Lake. Specific improvements to the boat ramp, beaches, picnic areas, day-use parking areas, fishing pier, and Pinecrest loop trail, as well as the addition of a new day-use parking area would enhance public access to project lands and water.

92. Throughout this license term, PG&E is required to develop and implement land resource plans for monitoring environmental resources (vegetation, noxious weeds and invasive plants, water temperature, and aquatic species), fire management and response, and wildlife management. PG&E also is required to develop and implement a roads and transportation facilities plan for National Forest System roads within the project boundary or project roads affecting Stanislaus National Forest resources. These measures will ensure that water quality and aquatic, terrestrial, recreational, and aesthetic resources will be protected and enhanced.

93. The Commission executed a Programmatic Agreement (PA) that required PG&E to implement an associated Historic Properties Management Plan (HPMP). Execution of the PA and implementation of the HPMP ensures the preservation of cultural resources within the project area.

94. The license also includes other administrative requirements, as described below.

## **ADMINISTRATIVE PROVISIONS**

### **Annual Charges**

95. The Commission collects annual charges from licensees for administration of the FPA and for compensation for the use and occupancy of federal lands. Article 201 provides for the collection of funds for administration of the FPA and use and occupancy of federal lands.

96. In its application, PG&E identified the amount of federal lands the project occupies; however, the amount identified (1,049.48 acres) is inconsistent with what is currently in the charge records with the Commission (1,060.98 acres). To clarify the amount of federal land occupied by the project, as licensed, Article 206 requires PG&E to file a statement of the amount of federal land occupied by the project.

### **Exhibit F and G Drawings**

97. The Commission requires licensees to file sets of approved project drawings on microfilm and in electronic file format. Ordering Paragraph (C) approves the exhibit F drawings filed on December 26, 2002.

98. The exhibit G drawings filed with the application do not conform to Commission regulations, nor do they include all lands necessary for project operations. Article 203 requires PG&E to file revised exhibit G drawings for Commission approval. The revised drawings need to enclose within the project boundary all project facilities and lands, including recreation and federal lands occupied by the project, and project roads deemed necessary for project purposes, as discussed above.

#### **Amortization Reserve**

99. The Commission requires that, for new major licenses, licensees must set up and maintain an amortization reserve account upon license issuance. Article 204 requires the establishment of the account.

#### **Headwater Benefits**

100. Some projects directly benefit from headwater improvements that were constructed by other licensees, by the United States, or by permittees. Article 205 requires PG&E to reimburse such entities for these benefits if they were not previously assessed and reimbursed.

#### **Use and Occupancy**

101. Requiring a licensee to obtain prior Commission approval for every use or occupancy of project land would be unduly burdensome; therefore, Article 408 allows PG&E to grant permission, without prior Commission approval, for the use and occupancy of project lands for such minor activities as landscape planting. Such uses must be consistent with the purposes of protecting and enhancing the scenic, recreational, and environmental values of the project.

#### **Review of Final Plans and Specifications**

102. Water Board certification condition 8 requires PG&E to construct fish screens at the Stanislaus power tunnel. Article 301 requires PG&E to provide the Commission's Division of Dam Safety and Inspections – San Francisco Regional Office (D2SI-SFRO) with plans and specifications, and other preconstruction documents consistent with the Commission's engineering guidelines for the construction of the fish screen.

103. Article 302 requires PG&E to provide the Commission's D2SI-SFRO with its plans and specifications and other preconstruction documents consistent with the Commission's engineering guidelines for the removal of the Stanislaus Afterbay dam. The article also stipulates the removal must be completed within two years from the issuance date of this order.

104. Article 303 requires PG&E to provide the Commission's D2SI-SFRO with cofferdam construction drawings, specifications, and letters of approval, involved with the fish screen and dam removal work.

### **As-Built Drawings**

105. Where new construction, removal, or modifications to the project are involved, the Commission requires licensees to file revised drawings of project features as built. Article 304 provides for the filing of these drawings.

### **Consultation for Resource Plans**

106. Appendices A and B contain certain certification conditions and Forest Service conditions that either do not require the licensee to file plans with the Commission or do not provide for consultation with the appropriate agencies during plan development. Article 401, therefore, requires the licensee to consult with the other agencies during plan development and to file the plans with the Commission for approval.

## **STATE AND FEDERAL COMPREHENSIVE PLANS**

107. Section 10(a)(2)(A) of the FPA<sup>49</sup> requires the Commission to consider the extent to which a project is consistent with federal and state comprehensive plans for improving, developing, or conserving a waterway or waterways affected by the project.<sup>50</sup> Under section 10(a)(2)(A), federal and state agencies filed 55 comprehensive plans that address various resources in California. Of these, Commission staff identified and reviewed 20 plans that are relevant to this project.<sup>51</sup> No conflicts were found.

## **APPLICANT'S PLANS AND CAPABILITIES**

108. In accordance with sections 10(a)(2)(C) and 15(a) of the FPA,<sup>52</sup> Commission staff evaluated PG&E's record as a licensee for these areas: (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

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<sup>49</sup> 16 U.S.C. § 803(a)(2)(A) (2006).

<sup>50</sup> Comprehensive plans for this purpose are defined at 18 C.F.R. § 2.19 (2008).

<sup>51</sup> The list of applicable plans can be found in section 5.5 (Consistency with Comprehensive and Other Resource Plans) of the final EIS for the project.

<sup>52</sup> 16 U.S.C. §§ 803(a)(2)(C) and 808(a) (2006).

electric service; (5) need for power; (6) transmission services; (7) cost-effectiveness of plans; and (8) actions affecting the public. I accept the staff's findings in each of the areas.

### **Conservation Efforts**

109. Section 10(a)(2)(C) of the FPA requires the Commission to consider the extent of electricity consumption efficiency improvement programs in the case of license applicants primarily engaged in the generation or sale of electric power, like PG&E. 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. Commission staff concludes that PG&E is making reasonable efforts to conserve electricity and has made a satisfactory good faith effort to comply with section 10(a)(2)(C) of the FPA.

### **Compliance History and Ability to Comply with New License**

110. Based on a review of PG&E's compliance with the terms and conditions of the existing license, Commission staff finds that PG&E's overall record of making timely filings and compliance with its license is satisfactory and that PG&E can satisfy the conditions of a new license.

### **Safe Management, Operation, and Maintenance of the Project**

111. Commission staff has reviewed PG&E's management, operation, and maintenance of the Spring Gap-Stanislaus Hydroelectric Project pursuant to the requirements of 18 C.F.R. Part 12 and the Commission's Engineering Guidelines and periodic independent Consultant's Safety Inspection Reports. Staff concludes that the dams and other project works are safe, and that there is no reason to believe that PG&E cannot continue to safely manage, operate, and maintain these facilities under a new license.

### **Ability to Provide Efficient and Reliable Electric Service**

112. Commission staff has 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 service. This review indicates that PG&E regularly inspects the project turbine generator units to ensure they continue to perform in an optimal manner, schedules maintenance to minimize effects on energy production, and since the project has been in operation, has undertaken several initiatives to ensure the project is able to operate reliably into the future. Staff concludes that PG&E is capable of operating the project to provide efficient and reliable electric service in the future.

### **Need for Power**

113. The Stanislaus River projects are a resource that is important to the operation of the Stanislaus River system as a whole. The Spring Gap-Stanislaus Hydroelectric Project has been providing hydroelectric generation for about 95 years. Under the conditions of this license, the project would continue to meet part of California's power requirements, resource diversity, and capacity needs.

114. To see how the demand for electricity is expected to change in the future in the region, Commission staff looked at the regional need for power as reported by the North American Electric Reliability Council (NERC) for its Western Electricity Coordinating Council (WECC) region (NERC, 2008). PG&E's Spring Gap-Stanislaus Hydroelectric Project has an installed capacity of 87.9 MW and currently generates an average of 391,748 megawatt-hours (MWh) per year. The project is located in the California-Mexico Power Area (CA/MX) of the WECC. WECC annually forecasts electrical supply and demand regionally for a 10-year period. Over the 10-year forecast, WECC predicts the need to add over 3,623 MW to the CA/MX area to meet summer peak loads and to offset the retirement of existing resources.

115. Power from the Spring Gap-Stanislaus Hydroelectric Project can continue to meet PG&E's customers' growing needs as well as meeting part of the regional need for power. The project may displace fossil-fueled electric power generation that the regional utilities currently use, and thereby may conserve nonrenewable fossil fuels and reduce the emission of noxious byproducts caused during the combustion of fossil fuels.

### **Transmission Services**

116. The project's transmission facilities that are required to be licensed include the generator leads, station transformers, buses and switchyards located at the powerhouses. PG&E proposes no changes that would affect transmission facilities.

### **Cost Effectiveness of Plans**

117. As discussed in this order, PG&E is proposing several measures and plans for the enhancement of fish and wildlife, recreation, and cultural resources at the project. Based on PG&E's record as an existing licensee, I conclude that these plans are likely to be carried out in a cost-effective manner.

### **Actions Affecting the Public**

118. PG&E provided extensive opportunity for public involvement in the development of its application for a new license for the Spring Gap-Stanislaus Hydroelectric Project. During the previous license period, PG&E provided facilities to enhance the public use of project lands and facilities and operated the project with consideration for the protection

of resources along the Stanislaus River. PG&E uses the project to help meet local power needs and pays taxes that help cover the cost of public services provided by the local government. In addition, the project provides employment opportunities.

### **PROJECT ECONOMICS**

119. In determining whether to issue a new license for an existing hydroelectric project, the Commission considers a number of public interest factors, including the economic benefits of project power. Under the Commission's approach to evaluating the economics of hydropower projects, as articulated in *Mead Corp.*,<sup>53</sup> the Commission 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 of reasonable alternatives to project power. The estimate helps to support an informed decision concerning what is in the public interest with respect to a proposed license. 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.

120. In applying this analysis to the Spring Gap-Stanislaus Hydroelectric Project, I have considered two options: PG&E's original proposal and the project as licensed herein. As proposed by PG&E, the levelized annual cost of operating the project is \$10,193,000 or \$26.02/MWh. As proposed, the project would generate an estimated average of 391,748 MWh of energy annually. When staff's estimate of average generation is multiplied by the alternative power cost of \$61.27/MWh,<sup>54</sup> the result is the total value of the project's power of \$24,003,000 in 2007 dollars. To determine whether the proposed project is currently economically beneficial, staff subtracts the project's cost from the total value of the project's power. The outcome is that in the first year of continued operation, the project would cost \$13,810,000 or \$35.25/MWh less than likely alternative cost of power.

121. As licensed herein with the mandatory conditions and staff measures, the levelized annual cost of operating the project would be about \$10,201,000 or \$26.04/MWh. As licensed, the Spring Gap-Stanislaus Project would continue to generate an estimated average of 391,748 MWh of energy annually. The project, therefore, would produce power valued at \$24,003,000 when multiplied by the \$61.27/MWh value of the project's

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<sup>53</sup> 72 FERC ¶61,027 (1995).

<sup>54</sup> The alternative power cost of \$61.27 per MWh is based on information from PG&E's average power rate.



power. Therefore, in the first year of operation, the project would cost \$13,802,000 or \$35.23/ MWh, less than the likely alternative cost of power.

### **COMPREHENSIVE DEVELOPMENT**

122. Sections 4(e) and 10(a)(1) of the FPA<sup>55</sup> require the Commission to give equal consideration to power development purposes and to the purposes of energy conservation; the protection, mitigation of, damage to, and enhancement of fish and wildlife; the protection of recreational opportunities; and the preservation of other aspects of environmental quality. Accordingly, any license issued shall, in the Commission's judgment, be best adapted to a comprehensive plan for improving or developing a waterway or waterways for all beneficial public uses. The decision to license this project, and the terms and conditions included herein, reflect such consideration.

123. The EIS for the project contains background information, analysis of effects, and support for related license articles. The project will be safe if operated and maintained in accordance with the requirements of this license.

124. Based on the Commission's independent review and evaluation of the project, recommendations from the resource agencies and other entities, and the no-action alternative, as documented in the EIS, I have selected the proposed Spring Gap-Stanislaus Project, with the staff-recommended measures along with mandatory conditions, and find that it is best adapted to a comprehensive plan for improving or developing the Stanislaus River.

125. I select this alternative because: (1) issuance of a new license will serve to maintain a beneficial, dependable, and inexpensive source of electric energy; (2) the required environmental measures will protect and enhance fish and wildlife resources, water quality, recreational resources, and historic properties; and (3) the 87.90 MW of electric energy generated from a renewable resource may offset the use of fossil-fueled, steam-electric generating plants, thereby conserving nonrenewable resources and reducing atmospheric pollution.

### **LICENSE TERM**

126. Section 15(e) of the FPA,<sup>56</sup> provides that any new license issued shall be for a term that the Commission determines to be in the public interest, but not less than 30 years or more than 50 years. Our general policy is to establish 30-year terms for projects

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<sup>55</sup> 16 U.S.C. §§ 797(e) and 803(a)(1) (2006).

<sup>56</sup> 16 U.S.C. § 808(e) (2006).

with little or no redevelopment, new construction, new capacity, or environmental mitigation and enhancement measures; 40-year terms for projects with a moderate amount of such activities; and 50-year terms for projects with extensive measures.<sup>57</sup>

127. When deciding on a license term, it is also the Commission's policy to coordinate to the maximum extent possible the license expiration dates of projects in a river basin, in order that subsequent relicense proceedings can be coordinated.<sup>58</sup> As noted above, there are two licensed hydroelectric projects in the Stanislaus River Basin whose operations are intricately connected to the Spring Gap-Stanislaus Project: (1) the Beardsley/Donnells Project, Project No. 2005; and (2) the Tulloch Project, Project No. 2067. The licenses for these projects expire on December 31, 2046.

128. In consideration of the moderate amount of environmental measures required by the license, as well as to ensure coordination with other projects in the basin to the extent possible, I will issue PG&E a 38-year license.

The Commission orders:

(A) This license is issued to Pacific Gas and Electric (licensee) for a period of 38 years, effective the first day of the month in which the license is issued, to operate and maintain the Spring Gap-Stanislaus Project No. 2130. 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 these lands, described in the project description and the project boundary discussion of this order.

(2) The project consists of four developments: Relief, Strawberry (Pinecrest Lake), Spring Gap, and Stanislaus.

The Relief development includes: (1) the 223-acre Relief reservoir, with a gross storage capacity of 15,558 acre-feet at elevation 7,215.0 feet USGS datum and a usable

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<sup>57</sup> See *Consumers Power Company*, 68 FERC ¶ 61,077 at 61,383-84 (1994).

<sup>58</sup> See 18 C.F.R. § 2.23 (2008) ("In issuing both new and original licenses, the Commission will coordinate the expiration dates of the licenses to the maximum extent possible, to maximize future consideration of cumulative impacts at the same time in contemporaneous proceedings at relicensing.").

storage capacity of 15,200 acre-feet; and (2) the Relief dam, a 144.5-foot-high, 560-foot-long concrete face rock masonry dam with a 63-foot-long spillway controlled by 15-foot flashboards from April 2 through October 31, and three 30-inch gate valves that serve as low level outlets.

The Strawberry development includes: (1) the 300-acre Pinecrest Lake, with a gross storage capacity of 18,312 acre-feet at elevation 5,620.1 feet (USGS) and a usable storage capacity of 18,266 acre-feet; and (2) Strawberry dam, a 133-foot-high, 720-foot-long concrete face rock masonry dam with a 108-foot-long spillway controlled by 6-foot flashboards from May to September, and one 6-foot diameter low level outlet with a 30-inch fixed cone valve.

The Spring Gap development includes: (1) Philadelphia diversion dam, an 11-foot-high, 56-foot-long concrete face rock masonry overflow spillway dam that forms a 0.25-acre impoundment with a storage capacity of one acre-foot at elevation 4,952.3 feet (USGS); (2) diversion dam fish screen, ladder, and associated facilities; (3) Philadelphia ditch, a 4.7-mile-long, 11-foot wide by 3.9-foot-deep canal (including a 0.7-mile-long, 4-foot-wide by 3.8-foot-deep wooden flume) from Philadelphia diversion to the Spring Gap penstock which has a maximum hydraulic capacity of 61 cubic feet per second (cfs); (4) Spring Gap forebay, with a storage capacity of less than one acre-foot at elevation 4,876.0 (USGS) bounded by a 13.5-foot high, 220-foot-long concrete header box with a 80-foot-long concrete overtop spillway; (5) Spring Gap penstock, a 36.75-inch to 29.5-inch diameter, 7,249-foot-long riveted steel, partially buried penstock; (6) Spring Gap powerhouse, a 53-foot by 44-foot, single-story reinforced concrete structure; (7) one 7-MW generating unit driven by an overhung impulse turbine with a maximum hydraulic capacity of 63 cfs; (8) Spring Gap switchyard; and (9) other appurtenant facilities.

The Stanislaus development is composed of: (1) Sand Bar diversion dam, a 24-foot-high, 174-foot-long timber crib overflow spillway dam that forms a 7.5-acre impoundment with a storage capacity of 45 acre-feet at a normal maximum elevation 2,751.6 feet (USGS); (2) Stanislaus power tunnel, a 11.4-mile-long, 10.75-foot-high by 9.5-foot-wide arch-shaped tunnel formed by unlined natural rock (11.2 miles) and natural rock lined with steel and shotcrete (0.2 mile) with a maximum hydraulic capacity of 530 cfs; (3) the 16-acre Stanislaus forebay, with a storage capacity of 320 acre-feet at elevation 2,602.3 feet (USGS) bounded on the east by a shotcrete face earth-fill dam that is 55 feet high by 400 feet long with one 24-inch diameter steel low level outlet, on the west by a shotcrete face earth-fill, compacted rock overlay dam that is 60 feet high by 1,000 feet long, and on the south by an 18-foot-wide siphon spillway; (4) Stanislaus penstock, a 118-inch-diameter 4,707-foot-long welded steel penstock; and (5) Stanislaus powerhouse, a 72-foot by 78-foot reinforced concrete structure; (6) one 91-MW generating unit driven by a vertical-axis Pelton turbine with a maximum hydraulic capacity of 830 cfs; (7) the 5.1-acre Stanislaus Afterbay, with a storage capacity of 32 acre-feet at elevation 1,060.2 feet (USGS) bounded by a 20-foot high, 194-foot-long

timber face, steel frame dam with a 15-foot-long overflow and weir spillway and one 4-foot by 5-foot permanent opening which serves as a low level outlet; (8) Stanislaus switchyard; (9) Camp Nine Road, a 9-mile-long road from Parrots Ferry Road to Stanislaus powerhouse; (10) the PG&E-maintained parking area adjacent to Stanislaus forebay utilized for angling; (11) the PG&E-maintained parking area adjacent to Stanislaus powerhouse which is used primarily by the Sand Bar Flat whitewater boaters; and (12) other appurtenant facilities.

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

Exhibit A: The following sections of exhibit A filed on December 26, 2002:

Pages A-8 to Page A-15 (excluding references to project transmission lines)

Exhibit F: The following sections of exhibit F filed on December 23, 2002:

<u>Drawing</u>	<u>FERC No.</u>	<u>Showing</u>
F-1	2310-1001	Plan and Details of Dams at Stanislaus Forebay Spillway
F-2	2310-1002	Plan and Sections of Relief Dam
F-3	2310-1003	Plan of Rock Fill Dam for Strawberry Reservoir
F-4	2310-1004	Cross Sections and Details - Rock Fill Dam for Main Strawberry Reservoir
F-5	2310-1005	Layout for Spring Gap Power House
F-6	2310-1006	Stanislaus Forebay Spillway
F-7	2310-1007	Stanislaus Power House
F-8	2310-1008	Stanislaus Afterbay Dam and Profile of Penstock
F-9	2310-1009	Low Velocity Fish Screen - Philadelphia Ditch Diversion Dam

(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) Exhibits A and F described above are approved and made part of this license. The exhibit G drawings filed as part of the application for license do not conform to Commission regulations and are not approved.

(D) This license is subject to the conditions of the water quality certification issued by the California Water Resources Control Board on September 16, 2008, under section 401(a)(1) of the Clean Water Act, 33 U.S.C. § 1341(a)(1), as those conditions are set forth in Appendix A to this order. Authority is reserved to the Commission to amend this license to include such water quality certification conditions as may be required by the California Water Resources Control Board upon resolution of the petitions for reconsideration filed by the Tuolumne Utilities District and the licensee of the water quality certification issued September 16, 2008, and to modify existing conditions of this license as necessary to achieve consistency with any such certification conditions.

(E) This license is subject to the conditions submitted on November 30, 2004, and modified November 30, 2006, April 10, 2007, and October 3, 2007, by the U.S. Department of Agriculture - Forest Service under section 4(e) of the FPA, as those conditions are set forth in Appendix B to this order.

(F) This license is also 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" (*see* 54 FPC 1799 *et seq.*), as reproduced at the end of this order, and the following additional articles:

Article 201. Administrative Annual Charges. The licensee shall pay the United States annual charges, effective as of the first day of the month in which the license is issued, and as determined in accordance with provisions of the Commission's regulations in effect from time to time, for the purpose of:

(a) Reimbursing the United States for the cost of administering Part I of the Federal Power act, the authorized installed capacity for that purpose is 87.9 MW.

(b) Recompensing the United States for the use, occupancy, and enjoyment of its lands, the amount to be determined pursuant to Articles 203 and 206.

Article 202. Exhibit F Drawings. Within 45 days of the date of issuance of the license, the licensee shall file the approved exhibit drawings in aperture card and electronic file formats.

(a) Three sets of the approved exhibit drawings shall be reproduced on silver or gelatin 35mm microfilm. All microfilm shall be mounted on type D (3-1/4" X 7-3/8") aperture cards. Prior to microfilming, the FERC Project-Drawing Number (i.e., P-2130-1001 through P-2130-1009) shall be shown in the margin below the title block of the approved drawing. After mounting, the FERC Drawing Number shall be typed on the upper right corner of each aperture card. Additionally, the Project Number, FERC Exhibit (i.e., F-1, etc.), Drawing Title, and date of this license shall be typed on the upper left corner of each aperture card.

Two of the sets of aperture cards shall be filed with the Secretary of the Commission, ATTN: OEP/DHAC. The third set shall be filed with the Commission's Division of Dam Safety and Inspections – San Francisco Regional Office.

(b) The licensee shall file two separate sets of exhibit drawings in electronic raster format with the Secretary of the Commission, ATTN: OEP/DHAC. A third set shall be filed with the Commission's Division of Dam Safety and Inspections San Francisco Regional Office. Exhibit F drawings must be identified as (CEII) material under 18 CFR §388.113(c). Each drawing must be a separate electronic file, and the file name shall include: FERC Project-Drawing Number, FERC Exhibit, Drawing Title, date of this license, and file extension in the following format [P-2130-####, F-1, Description, MM-DD-YYYY.TIF]. Electronic drawings shall meet the following format specification:

IMAGERY - black & white raster file  
 FILE TYPE – Tagged Image File Format, (TIFF) CCITT Group 4  
 RESOLUTION – 300 dpi desired, (200 dpi min)  
 DRAWING SIZE FORMAT – 24” X 36” (min), 28” X 40” (max)  
 FILE SIZE – less than 1 MB desired

Article 203. Exhibit G Drawings. Within 90 days of the issuance date of this license, the licensee shall file, for Commission approval, revised exhibit G drawings enclosing within the project boundary all principal project works necessary for operation and maintenance of the project, including: (1) the access roads to USGS gage no. 1129500, on the South Fork Stanislaus River downstream of Herring Creek, and USGS gage no. 11297200, on the South Fork Stanislaus River downstream of the Philadelphia diversion dam, as well as the approximately 0.1-acre gaging station sites; (2) any land required for five cfs flow measuring devices downstream of the Relief and Strawberry dams, if outside the existing project boundary; (3) the portion of Forest Service Road 4N05 that is used exclusively for access to the Stanislaus forebay (about 1.5 miles); (4) the unclassified road that leads from Forest Service Road 4N13 to the Philadelphia diversion dam (about 0.3 mile); (5) the portion of Forest Service Road 4N01 used exclusively by PG&E for winter access to the Spring-Gap forebay (about 6 miles); and (6) the Pinecrest Lake beaches, fishing pier, boat ramp, and portions of the four-mile-long Pinecrest loop trail.

Acreage of total lands and the federal lands shall be indicated and explained. The exhibit G drawings must comply with sections 4.39 and 4.41 of the Commission's regulations.

Article 204. Amortization Reserve. 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 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 four percentage points (400 basis points).

Article 205. Headwater Benefits. If the licensee's project was directly benefited 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 206. Statement of Federal Lands. Within 90 days of the issuance date of this license, the licensee shall file documentation of the amount of federal land occupied by the project. The acreage shall be consistent with the federal lands identified on the revised exhibit G drawings required by Article 203.

Article 301. Contract Plans and Specifications. At least 60 days prior to the start of construction of the fish screen at the Stanislaus power tunnel, the licensee shall submit one copy of its plans and specifications to the Commission's Division of Dam Safety and Inspections (D2SI) – San Francisco Regional Engineer, and two copies to the Commission (one of these shall be a courtesy copy to the Director, D2SI). The submittal must also include as part of preconstruction requirements: a Quality Control and

Inspection Program, Temporary Construction Emergency Action Plan, and Soil Erosion and Sediment Control Plan. The licensee may not begin construction until the D2SI-San Francisco Regional Engineer has reviewed and commented on the plans and specifications, determined that all preconstruction requirements have been satisfied, and authorized start of construction.

Article 302. Stanislaus Afterbay Dam Removal. Within six months of the issuance date of this license, the licensee shall submit one copy of the following documents to the Commission's Division of Dam Safety and Inspection (D2SI) - San Francisco Regional Engineer and two copies to the Commission (one of these shall be a courtesy copy to the Director, D2SI): (1) a schedule and detailed description of the sequence of activities for removing the Stanislaus Afterbay dam and restoring the site; (2) final contract plans and specifications; (3) a Quality Control and Inspection Program; (4) a Temporary Construction Emergency Action Plan; (5) a blasting plan, if necessary; (6) a public safety plan for the period during removal activities; (7) a Soil Erosion and Sediment Control Plan; and (8) a disposal plan. The licensee may not begin removal activities until the D2SI-San Francisco Regional Engineer has reviewed and commented on the plans and specifications, determined that all preconstruction requirements have been satisfied, and authorized start of removal activities. Removal of the Stanislaus Afterbay dam shall be completed within two years of license issuance.

Article 303. Cofferdam Construction Drawings. No later than 60 days prior to the start of construction of the fish screens at the Stanislaus power tunnel or removal of the Stanislaus Afterbay Dam, the licensee shall review and approve the design of contractor-designed cofferdams and deep excavations and shall make sure construction of cofferdams and deep excavations is consistent with the approved design. At least 30 days before starting construction of the cofferdam, the licensee shall submit one copy to the Commission's D2SI-San Francisco Regional Engineer and two copies to the Commission (one of these copies shall be a courtesy copy to the Commission's Director, Division of Dam Safety and Inspections) of the approved cofferdam construction drawings and specifications and the letters of approval.

Article 304. As-built Drawings. Within 90 days of completion of all construction/removal activities authorized by this license, the licensee shall file for Commission approval, revised exhibits A, F, and G, as applicable, to describe and show those project facilities as built. A courtesy copy shall be filed with the Commission's D2SI-San Francisco Regional Engineer, the Director, D2SI, and the Director, DHAC.



Article 401. Commission Approval, Reporting, and Filing of Amendments.

## (a) Requirement to File Plans for Commission Approval and Requirement to Consult

Various conditions of this license found in the California State Water Resources Control Board's (Water Board) section 401 Water Quality Certification conditions (Appendix A) and the U.S. Department of Agriculture - Forest Service's (Forest Service) section 4(e) conditions (Appendix B) require the licensee to prepare plans and drawings for environmental measures. The following table indicates the agencies that the licensee shall consult with before preparing the plans and drawings, along with the deadline for filing the plans and drawings with the Commission for approval. The following 4(e) conditions shall be applied to all lands within the project boundary, as needed: hazardous substances plan (condition 7); fire prevention and response (condition 9); safety during construction plans (condition 13); pesticide use restrictions (condition 14); erosion control plan (condition 15); signs (condition 25); noxious weed management plan (condition 41); and vegetation management plan (condition 42).

<b>Water Board condition</b>	<b>Forest Service condition</b>	<b>Plan name</b>	<b>Consulting entity</b>	<b>Due date</b>
-	7	Hazardous Substance Plan	Forest Service, Water Board, US Fish and Wildlife Service (FWS), California Fish and Game	1 year from license issuance
-	13	Safety During Construction Plan	Forest Service	At least 60 days prior to ground-disturbing activity
-	14	Pesticide Use - Request for Approval		At least 60 days prior to pesticide use
-	15	Erosion Control Plan	Forest Service, Water Board, FWS, California Fish and Game	At least 60 days prior to ground-disturbing activity

-	25	Project-related Signs	Forest Service	At least 60 days prior to installation
-	27	Road Management Plan	Forest Service	1 year from license issuance
-	29	Recreation Management Sub-plans (Visitor Education and Information Plan and Shoreline Management Plan)	Forest Service	1 year from license issuance
-	29	Recreation Management Sub-plan (Traffic/Circulation/Parking Plan)	Forest Service	2 years from license issuance
2	34	Relief Reservoir drawdown curve and estimated Relief reach streamflow regime	Forest Service, Water Board, FWS, California Fish and Game	No later than 2 weeks from when approved by resource agencies
2	-	Plan for monitoring compliance with minimum flow between Relief dam and Kennedy Creek	Water Board, Forest Service, FWS, US Geological Service (USGS), and California Fish and Game	1 year from license issuance
4	34	Pinecrest Lake drawdown curve	Forest Service, Water Board, FWS, California Fish and Game, and Tuolumne Utilities District	No later than 2 weeks from when approved by resource agencies
4	-	Plan for monitoring compliance with minimum flow downstream of Strawberry dam	Water Board, Forest Service, FWS, USGS, and California Fish and Game	1 year from license issuance

8	-	Stanislaus power tunnel fish screen plans and drawings	Water Board, Forest Service, FWS, and California Fish and Game	1 year from license issuance
8	39	Modifications to monitoring plans <sup>59</sup>	Water Board, Forest Service, FWS, and California Fish and Game	6 months from license issuance or as otherwise needed
11	-	Final plans for the construction of the Stanislaus power tunnel fish screen and removal of the Stanislaus Afterbay dam, including measures to protect water quality	Water Board, Forest Service, FWS, and California Fish and Game	60 days prior to construction or dam removal
12	-	Stanislaus Afterbay sediment disposal approval		60 days before start of dam removal
13	-	Soil erosion plan to address construction of Stanislaus power tunnel fish screen and removal of Stanislaus Afterbay dam	Water Board, Forest Service, FWS, and California Fish and Game	1 year from license issuance
15	35	Spill Management Plan	Water Board, Forest Service, FWS, and Cal Fish and Game	6 months from license issuance
16	-	Revisions or amendments to the coordinated operations agreement	Water Board, Forest Service, FWS, and Cal Fish and Game	As needed

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<sup>59</sup> These monitoring plans include: (1) Relief Reach Riparian and Vegetation Restoration and Streambank Stabilization; (2) Hardhead Monitoring in Camp Nine Reach and Sand Bar Dam Reach; (3) Trout Population Monitoring in Spring Gap Reach and Sand Bar Dam Reach; (4) Foothill Yellow-legged Frog Monitoring in Sand Bar Dam Reach and Camp Nine Reach; and (5) Mountain Yellow-legged Frog Monitoring in Relief Reach.

18	-	Instream flow compliance locations	Water Board	6 months from license issuance
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The licensee shall submit to the Commission documentation of its consultation, copies of comments and recommendations made in connection with the plan, and a description of how the 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 approval, the plan becomes a requirement of the license, and the licensee shall implement the plan or changes in project operations or facilities, including any changes required by the Commission.

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

Four Water Board conditions in Appendix A and three Forest Service conditions in Appendix B 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. The California Department of Fish and Game and the U.S. Fish and Wildlife Service shall also be notified prior to implementing any modifications to these conditions.

<b>Water Board condition</b>	<b>Forest Service condition</b>	<b>License requirement</b>
5	34	Modifications to instream flow requirements during critically dry years
6	34	Temporary instream flow modifications
10	-	Not releasing recreation streamflow event
18	32	Ramping rates

## (c) Requirement to File Amendment Applications.

Certain Water Quality Conditions in Appendix A and Forest Service conditions in Appendix B contemplate unspecified long-term changes to project operations or facilities for the purpose of mitigating environmental impacts. These changes may not be implemented without prior Commission authorization granted after the filing of an application to amend the license. These conditions are listed below.

<b>Water Board condition</b>	<b>Forest Service condition</b>	<b>Modification</b>
-	1	Project changes based on a recreation settlement agreement
-	29	Construction of possible additional day-use parking lots/areas
2	34	Instream flows in the Relief reach and Relief reservoir levels
4	34	Pinecrest Lake levels
16	-	Project changes that result from modifications of the conditions of the water quality certification to address coordination with operations of the Beardsley-Donnells Project as needed to protect water quality
27	-	Project changes that result from additions or modifications of the water quality certification as a result of violations of the conditions of the certification issued on October 2, 2008
28	-	Any changes to project operations
29	-	Project changes that result from modification or revocation of the water quality certification as a result of administrative or judicial review
30	-	Project changes that result from modification or revocation of the water quality certification as a result of monitoring that indicates that continued operation of the project would violate water quality objectives or impair the beneficial uses of the Middle or South Fork Stanislaus River

31	-	Project changes that result from additions or modifications of the water quality certification as a result of implementation of any new or revised water quality standards and implementation plans
32	-	Project changes that result from additions or modifications of the water quality certification as a result of coordination of this project with other water development projects, where coordination is reasonably necessary to achieve water quality standards or protect beneficial uses of water
33	-	Project changes that result from the addition to or modification of the water quality certification

Article 402. *Coordination Agreement of Project Operations with Sand Bar Project.* In addition to coordinating operations with the Beardsley/Donnells Project (Project No. 2005) as required by California State Water Resources Control Board water quality certification condition 16, the licensee also shall coordinate Spring Gap-Stanislaus Project operations with operations of Tri-Dam Power's Sand Bar Dam Project (Project No. 2975), consistent with the Coordinated Operations Agreement approved by the Commission in Project No. 2005.<sup>60</sup>

Article 403. *Sand Bar Dam Reach Gage.* The licensee shall either modify USGS gage no. 11293200 or install a new stream gage on the Middle Fork Stanislaus River downstream of the Sand Bar diversion dam. The existing gage shall be modified or the new gage constructed so that it will document compliance with minimum daily flows, minimum supplemental flows, and recreation streamflow events in the Sand Bar dam reach. The licensee shall be responsible for the maintenance and operation of the stream gage. All data shall be recorded at a frequency of no greater than one hour intervals to document compliance with ramping rates in the Sand Bar reach as required by Forest Service 4(e) condition 32 and Water Quality Certification condition 18. An annual report shall be filed with the Commission by December 31 of each year that documents data obtained from the previous water year at this stream gage. Copies of this data shall also be provided upon request to the California State Water Resources Control Board, the U.S. Forest Service, and the California Department of Fish and Game.

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<sup>60</sup> The Coordinated Operation Agreement was filed by the South San Joaquin Irrigation District and the Oakdale Irrigation District on January 31, 2007, and approved by the Commission on November 24, 2008 (125 FERC ¶ 62,178).

Before modifying or installing the Sand Bar dam reach gage, the licensee shall consult with the U.S. Forest Service; the U.S. Geological Survey; the California Department of Fish and Game; and the California State Water Resources Control Board on the appropriate equipment, location, and timing of the installation, as necessary. The licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations before modifying or installing the stream gage.

Upon completion of the modifications or installation of a new stream gage, the licensee shall file a report with the Commission detailing the modifications made or installation of the new stream gage. The licensee shall include with the report stage/discharge relationships for the gage; documentation of consultation, including copies of comments and recommendations on the appropriate equipment, location, and timing of the installations after consultation with the agencies; and specific descriptions of how the comments were accommodated. If the licensee does not adopt a recommendation, the report shall include the licensee's reasons, based on project-specific information.

Article 404. *Reservation of Authority to Prescribe Fishways.* Authority is reserved to the Commission to require the licensee to construct, operate, and maintain, or provide for the construction, operation, and maintenance of such fishways as may be prescribed by the Secretary of the Interior pursuant to section 18 of the Federal Power Act.

Article 405. *Noxious Weed Management Plan.* In addition to the measures included in the proposed Noxious Weed Management Plan and the conditions included in Forest Service 4(e) condition 41, the licensee shall include measures to disseminate information regarding noxious weed control to the recreating public, in coordination with its proposed Visitor Education and Information Plan.

Article 406. *Bat Houses.* Within one year of license issuance, the licensee shall file a plan, for Commission approval, that details the design, placement, and maintenance of the bat houses required by U.S. Department of Agriculture – Forest Service (Forest Service) 4(e) condition 43.

The licensee shall include with the plan documentation of consultation with the Forest Service, copies of comments and recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the Forest Service's comments are accommodated. The licensee shall allow a minimum of 30 days for the Forest Service 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 additional measures if the plan is deemed inadequate. No land-disturbing or land-clearing activities associated with bat house construction shall begin until the licensee is notified by the Commission that the plan is approved. Upon Commission approval, the licensee shall implement the plan including any changes required by the Commission.

Article 407. Programmatic Agreement. The licensee shall implement the “Programmatic Agreement Among the Federal Energy Regulatory Commission and the Washington State Historic Preservation Officer for Managing Historic Properties that may be Affected by a License Issuing to Pacific Gas and Electric for the Continued Operation of the Spring Gap-Stanislaus Hydroelectric Project in Calaveras and Tuolumne Counties, California (FERC No. 2130-038),” executed on May 23, 2005, including but not limited to the Historic Properties Management Plan (HPMP) for the project. In the event that the Programmatic Agreement is terminated, the licensee shall continue to 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.

Article 408. 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 occupancy, 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.

(b) The type 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 impoundment 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 impoundment. 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. If no conveyance was made during the prior calendar year, the licensee shall so inform the Commission in writing no later than January 31 of each year.

(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 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 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 report on recreational resources of an Exhibit E; or, if the project does not have an 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; and (ii) the grantee shall take all reasonable precautions to ensure 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.

(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 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 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.

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

(H) 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 Federal Power Act. 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 license.

J. Mark Robinson  
Director  
Office of Energy Projects

**Form L-1**  
(October, 1975)

**FEDERAL ENERGY REGULATORY COMMISSION  
TERMS AND CONDITIONS OF LICENSE  
FOR CONSTRUCTED MAJOR PROJECT AFFECTING  
LANDS OF THE UNITED STATES**

**Article 1.** The entire project, as described in this order of the Commission, shall be subject to all of the provisions, terms, and conditions of the license.

**Article 2.** No substantial change shall be made in the maps, plans, specifications, and statements described and designated as exhibits and approved by the Commission in its order as a part of the license until such change shall have been approved by the Commission: Provided, however, That if the Licensee or the Commission deems it necessary or desirable that said approved exhibits, or any of them, be changed, there shall be submitted to the Commission for approval a revised, or additional exhibit or exhibits covering the proposed changes which, upon approval by the Commission, shall become a part of the license and shall supersede, in whole or in part, such exhibit or exhibits theretofore made a part of the license as may be specified by the Commission.

**Article 3.** The project area and project works shall be in substantial conformity with the approved exhibits referred to in Article 2 herein or as changed in accordance with the provisions of said article. Except when emergency shall require for the protection of navigation, life, health, or property, there shall not be made without prior approval of the Commission any substantial alteration or addition not in conformity with the approved plans to any dam or other project works under the license or any substantial use of project lands and waters not authorized herein; and any emergency alteration, addition, or use so made shall thereafter be subject to such modification and change as the Commission may direct. Minor changes in project works, or in uses of project lands and waters, or divergence from such approved exhibits may be made if such changes will not result in a decrease in efficiency, in a material increase in cost, in an adverse environmental impact, or in impairment of the general scheme of development; but any of such minor changes made without the prior approval of the Commission, which in its judgment have produced or will produce any of such results, shall be subject to such alteration as the Commission may direct.

**Article 4.** The project, including its operation and maintenance and any work incidental to additions or alterations authorized by the Commission, whether or not conducted upon lands of the United States, shall be subject to the inspection and supervision of the Regional Engineer, Federal Energy Regulatory Commission, in the

region wherein the project is located, or of such other officer or agent as the Commission may designate, who shall be the authorized representative of the Commission for such purposes. The Licensee shall cooperate fully with said representative and shall furnish him such information as he may require concerning the operation and maintenance of the project, and any such alterations thereto, and shall notify him of the date upon which work with respect to any alteration will begin, as far in advance thereof as said representative may reasonably specify, and shall notify him promptly in writing of any suspension of work for a period of more than one week, and of its resumption and completion. The Licensee shall submit to said representative a detailed program of inspection by the Licensee that will provide for an adequate and qualified inspection force for construction of any such alterations to the project. Construction of said alterations or any feature thereof shall not be initiated until the program of inspection for the alterations or any feature thereof has been approved by said representative. The Licensee shall allow said representative and other officers or employees of the United States, showing proper credentials, free and unrestricted access to, through, and across the project lands and project works in the performance of their official duties. The Licensee shall comply with such rules and regulations of general or special applicability as the Commission may prescribe from time to time for the protection of life, health, or property.

**Article 5.** The Licensee, within five years from the date of issuance of the license, shall acquire title in fee or the right to use in perpetuity all lands, other than lands of the United States, necessary or appropriate for the construction maintenance, and operation of the project. The Licensee or its successors and assigns shall, during the period of the license, retain the possession of all project property covered by the license as issued or as later amended, including the project area, the project works, and all franchises, easements, water rights, and rights or occupancy and use; and none of such properties shall be voluntarily sold, leased, transferred, abandoned, or otherwise disposed of without the prior written approval of the Commission, except that the Licensee may lease or otherwise dispose of interests in project lands or property without specific written approval of the Commission pursuant to the then current regulations of the Commission. The provisions of this article are not intended to prevent the abandonment or the retirement from service of structures, equipment, or other project works in connection with replacements thereof when they become obsolete, inadequate, or inefficient for further service due to wear and tear; and mortgage or trust deeds or judicial sales made thereunder, or tax sales, shall not be deemed voluntary transfers within the meaning of this article.

**Article 6.** In the event the project is taken over by the United States upon the termination of the license as provided in Section 14 of the Federal Power Act, or is transferred to a new licensee or to a non-power licensee under the provisions of Section 15 of said Act, the Licensee, its successors and assigns shall be responsible for, and shall

make good any defect of title to, or of right of occupancy and use in, any of such project property that is necessary or appropriate or valuable and serviceable in the maintenance and operation of the project, and shall pay and discharge, or shall assume responsibility for payment and discharge of, all liens or encumbrances upon the project or project property created by the Licensee or created or incurred after the issuance of the license: Provided, That the provisions of this article are not intended to require the Licensee, for the purpose of transferring the project to the United States or to a new licensee, to acquire any different title to, or right of occupancy and use in, any of such project property than was necessary to acquire for its own purposes as the Licensee.

**Article 7.** The actual legitimate original cost of the project, and of any addition thereto or betterment thereof, shall be determined by the Commission in accordance with the Federal Power Act and the Commission's Rules and Regulations thereunder.

**Article 8.** The Licensee shall install and thereafter maintain gages and stream-gaging stations for the purpose of determining the stage and flow of the stream or streams on which the project is located, the amount of water held in and withdrawn from storage, and the effective head on the turbines; shall provide for the required reading of such gages and for the adequate rating of such stations; and shall install and maintain standard meters adequate for the determination of the amount of electric energy generated by the project works. The number, character, and location of gages, meters, or other measuring devices, and the method of operation thereof, shall at all times be satisfactory to the Commission or its authorized representative. The Commission reserves the right, after notice and opportunity for hearing, to require such alterations in the number, character, and location of gages, meters, or other measuring devices, and the method of operation thereof, as are necessary to secure adequate determinations. The installation of gages, the rating of said stream or streams, and the determination of the flow thereof, shall be under the supervision of, or in cooperation with, the District Engineer of the United States Geological Survey having charge of stream-gaging operations in the region of the project, and the Licensee shall advance to the United States Geological Survey the amount of funds estimated to be necessary for such supervision, or cooperation for such periods as may mutually agreed upon. The Licensee shall keep accurate and sufficient records of the foregoing determinations to the satisfaction of the Commission, and shall make return of such records annually at such time and in such form as the Commission may prescribe.

**Article 9.** The Licensee shall, after notice and opportunity for hearing, install additional capacity or make other changes in the project as directed by the Commission, to the extent that it is economically sound and in the public interest to do so.

**Article 10.** The Licensee shall, after notice and opportunity for hearing, coordinate the operation of the project, electrically and hydraulically, with such other projects or power systems and in such manner as the Commission may direct in the

interest of power and other beneficial public uses of water resources, and on such conditions concerning the equitable sharing of benefits by the Licensee as the Commission may order.

**Article 11.** Whenever the Licensee is directly benefited by the construction work of another licensee, a permittee, or the United States on a storage reservoir or other headwater improvement, the Licensee shall reimburse the owner of the headwater improvement for such part of the annual charges for interest, maintenance, and depreciation thereof as the Commission shall determine to be equitable, and shall pay to the United States the cost of making such determination as fixed by the Commission. For benefits provided by a storage reservoir or other headwater improvement of the United States, the Licensee shall pay to the Commission the amounts for which it is billed from time to time for such headwater benefits and for the cost of making the determinations pursuant to the then current regulations of the Commission under the Federal Power Act.

**Article 12.** The operations of the Licensee, so far as they affect the use, storage and discharge from storage of waters affected by the license, shall at all times be controlled by such reasonable rules and regulations as the Commission may prescribe for the protection of life, health, and property, and in the interest of the fullest practicable conservation and utilization of such waters for power purposes and for other beneficial public uses, including recreational purposes, and the Licensee shall release water from the project reservoir at such rate in cubic feet per second, or such volume in acre-feet per specified period of time, as the Commission may prescribe for the purposes hereinbefore mentioned.

**Article 13.** On the application of any person, association, corporation, Federal agency, State or municipality, the Licensee shall permit such reasonable use of its reservoir or other project properties, including works, lands and water rights, or parts thereof, as may be ordered by the Commission, after notice and opportunity for hearing, in the interests of comprehensive development of the waterway or waterways involved and the conservation and utilization of the water resources of the region for water supply or for the purposes of steam-electric, irrigation, industrial, municipal or similar uses. The Licensee shall receive reasonable compensation for use of its reservoir or other project properties or parts thereof for such purposes, to include at least full reimbursement for any damages or expenses which the joint use causes the Licensee to incur. Any such compensation shall be fixed by the Commission either by approval of an agreement between the Licensee and the party or parties benefiting or after notice and opportunity for hearing. Applications shall contain information in sufficient detail to afford a full understanding of the proposed use, including satisfactory evidence that the applicant possesses necessary water rights pursuant to applicable State law, or a showing of cause why such evidence cannot concurrently be submitted, and a statement as to the

relationship of the proposed use to any State or municipal plans or orders which may have been adopted with respect to the use of such waters.

**Article 14.** In the construction or maintenance of the project works, the Licensee shall place and maintain suitable structures and devices to reduce to a reasonable degree the liability of contact between its transmission lines and telegraph, telephone and other signal wires or power transmission lines constructed prior to its transmission lines and not owned by the Licensee, and shall also place and maintain suitable structures and devices to reduce to a reasonable degree the liability of any structures or wires falling or obstructing traffic or endangering life. None of the provisions of this article are intended to relieve the Licensee from any responsibility or requirement which may be imposed by any other lawful authority for avoiding or eliminating inductive interference.

**Article 15.** The Licensee shall, for the conservation and development of fish and wildlife resources, construct, maintain, and operate, or arrange for the construction, maintenance, and operation of such reasonable facilities, and comply with such reasonable modifications of the project structures and operation, as may be ordered by the Commission upon its own motion or upon the recommendation of the Secretary of the Interior or the fish and wildlife agency or agencies of any State in which the project or a part thereof is located, after notice and opportunity for hearing.

**Article 16.** Whenever the United States shall desire, in connection with the project, to construct fish and wildlife facilities or to improve the existing fish and wildlife facilities at its own expense, the Licensee shall permit the United States or its designated agency to use, free of cost, such of the Licensee's lands and interests in lands, reservoirs, waterways and project works as may be reasonably required to complete such facilities or such improvements thereof. In addition, after notice and opportunity for hearing, the Licensee shall modify the project operation as may be reasonably prescribed by the Commission in order to permit the maintenance and operation of the fish and wildlife facilities constructed or improved by the United States under the provisions of this article. This article shall not be interpreted to place any obligation on the United States to construct or improve fish and wildlife facilities or to relieve the Licensee of any obligation under this license.

**Article 17.** The Licensee shall construct, maintain, and operate, or shall arrange for the construction, maintenance, and operation of such reasonable recreational facilities, including modifications thereto, such as access roads, wharves, launching ramps, beaches, picnic and camping areas, sanitary facilities, and utilities, giving consideration to the needs of the physically handicapped, and shall comply with such reasonable modifications of the project, as may be prescribed hereafter by the Commission during the term of this license upon its own motion or upon the recommendation of the Secretary



of the Interior or other interested Federal or State agencies, after notice and opportunity for hearing.

**Article 18.** So far as is consistent with proper operation of the project, the Licensee shall allow the public free access, to a reasonable extent, to project waters and adjacent project lands owned by the Licensee for the purpose of full public utilization of such lands and waters for navigation and for outdoor recreational purposes, including fishing and hunting: Provided, That the Licensee may reserve from public access such portions of the project waters, adjacent lands, and project facilities as may be necessary for the protection of life, health, and property.

**Article 19.** In the construction, maintenance, or operation of the project, the Licensee shall be responsible for, and shall take reasonable measures to prevent, soil erosion on lands adjacent to streams or other waters, stream sedimentation, and any form of water or air pollution. The Commission, upon request or upon its own motion, may order the Licensee to take such measures as the Commission finds to be necessary for these purposes, after notice and opportunity for hearing.

**Article 20.** The Licensee shall clear and keep clear to an adequate width lands along open conduits and shall dispose of all temporary structures, unused timber, brush, refuse, or other material unnecessary for the purposes of the project which results from the clearing of lands or from the maintenance or alteration of the project works. In addition, all trees along the periphery of project reservoirs which may die during operations of the project shall be removed. All clearing of the lands and disposal of the unnecessary material shall be done with due diligence and to the satisfaction of the authorized representative of the Commission and in accordance with appropriate Federal, State, and local statutes and regulations.

**Article 21.** Timber on lands of the United State cut, used, or destroyed in the construction and maintenance of the project works, or in the clearing of said lands, shall be paid for, and the resulting slash and debris disposed of, in accordance with the requirements of the agency of the United States having jurisdiction over said lands. Payment for merchantable timber shall be at current stumpage rates, and payment for young growth timber below merchantable size shall be at current damage appraisal values. However, the agency of the United States having jurisdiction may sell or dispose of the merchantable timber to others than the Licensee: Provided, That timber so sold or disposed of shall be cut and removed from the area prior to, or without undue interference with, clearing operations of the Licensee and in coordination with the Licensee's project construction schedules. Such sale or disposal to others shall not relieve the Licensee of responsibility for the clearing and disposal of all slash and debris from project lands.

**Article 22.** The Licensee shall do everything reasonably within its power, and shall require its employees, contractors, and employees of contractors to do everything reasonably within their power, both independently and upon the request of officers of the agency concerned, to prevent, to make advance preparations for suppression of, and to suppress fires on the lands to be occupied or used under the license. The Licensee shall be liable for and shall pay the costs incurred by the United States in suppressing fires caused from the construction, operation, or maintenance of the project works or of the works appurtenant or accessory thereto under the license.

**Article 23.** The Licensee shall interpose no objection to, and shall in no way prevent, the use by the agency of the United States having jurisdiction over the lands of the United States affected, or by persons or corporations occupying lands of the United States under permit, of water for fire suppression from any stream, conduit, or body of water, natural or artificial, used by the Licensee in the operation of the project works covered by the license, or the use by said parties of water for sanitary and domestic purposes from any stream, conduit, or body of water, natural or artificial, used by the Licensee in the operation of the project works covered by the license.

**Article 24.** The Licensee shall be liable for injury to, or destruction of, any buildings, bridges, roads, trails, lands, or other property of the United States, occasioned by the construction, maintenance, or operation of the project works or of the works appurtenant or accessory thereto under the license. Arrangements to meet such liability, either by compensation for such injury or destruction, or by reconstruction or repair of damaged property, or otherwise, shall be made with the appropriate department or agency of the United States.

**Article 25.** The Licensee shall allow any agency of the United States, without charge, to construct or permit to be constructed on, through, and across those project lands which are lands of the United States such conduits, chutes, ditches, railroads, roads, trails, telephone and power lines, and other routes or means of transportation and communication as are not inconsistent with the enjoyment of said lands by the Licensee for the purposes of the license. This license shall not be construed as conferring upon the Licensee any right of use, occupancy, or enjoyment of the lands of the United States other than for the construction, operation, and maintenance of the project as stated in the license.

**Article 26.** In the construction and maintenance of the project, the location and standards of roads and trails on lands of the United States and other uses of lands of the United States, including the location and condition of quarries, borrow pits, and spoil disposal areas, shall be subject to the approval of the department or agency of the United States having supervision over the lands involved.

**Article 27.** The Licensee shall make provision, or shall bear the reasonable cost, as determined by the agency of the United States affected, of making provision for avoiding inductive interference between any project transmission line or other project facility constructed, operated, or maintained under the license, and any radio installation, telephone line, or other communication facility installed or constructed before or after construction of such project transmission line or other project facility and owned, operated, or used by such agency of the United States in administering the lands under its jurisdiction.

**Article 28.** The Licensee shall make use of the Commission's guidelines and other recognized guidelines for treatment of transmission line rights-of-way, and shall clear such portions of transmission line rights-of-way across lands of the United States as are designated by the officer of the United States in charge of the lands; shall keep the areas so designated clear of new growth, all refuse, and inflammable material to the satisfaction of such officer; shall trim all branches of trees in contact with or liable to contact the transmission lines; shall cut and remove all dead or leaning trees which might fall in contact with the transmission lines; and shall take such other precautions against fire as may be required by such officer. No fires for the burning of waste material shall be set except with the prior written consent of the officer of the United States in charge of the lands as to time and place.

**Article 29.** The Licensee shall cooperate with the United States in the disposal by the United States, under the Act of July 31, 1947, 61 Stat. 681, as amended (30 U.S.C. sec. 601, et seq.), of mineral and vegetative materials from lands of the United States occupied by the project or any part thereof: Provided, That such disposal has been authorized by the Commission and that it does not unreasonably interfere with the occupancy of such lands by the Licensee for the purposes of the license: Provided further, That in the event of disagreement, any question of unreasonable interference shall be determined by the Commission after notice and opportunity for hearing.

**Article 30.** If the Licensee shall cause or suffer essential project property to be removed or destroyed or to become unfit for use, without adequate replacement, or shall abandon or discontinue good faith operation of the project or refuse or neglect to comply with the terms of the license and the lawful orders of the Commission mailed to the record address of the Licensee or its agent, the Commission will deem it to be the intent of the Licensee to surrender the license. The Commission, after notice and opportunity for hearing, may require the Licensee to remove any or all structures, equipment and power lines within the project boundary and to take any such other action necessary to restore the project waters, lands, and facilities remaining within the project boundary to a condition satisfactory to the United States agency having jurisdiction over its lands or the Commission's authorized representative, as appropriate, or to provide for the continued operation and maintenance of nonpower

facilities and fulfill such other obligations under the license as the Commission may prescribe. In addition, the Commission in its discretion, after notice and opportunity for hearing, may also agree to the surrender of the license when the Commission, for the reasons recited herein, deems it to be the intent of the Licensee to surrender the license.

**Article 31.** The right of the Licensee and of its successors and assigns to use or occupy waters over which the United States has jurisdiction, or lands of the United States under the license, for the purpose of maintaining the project works or otherwise, shall absolutely cease at the end of the license period, unless the Licensee has obtained a new license pursuant to the then existing laws and regulations, or an annual license under the terms and conditions of this license.

**Article 32.** The terms and conditions expressly set forth in the license shall not be construed as impairing any terms and conditions of the Federal Power Act which are not expressly set forth herein.

**APPENDIX A****(Filed September 16, 2008)****STATE OF CALIFORNIA  
STATE WATER RESOURCES CONTROL BOARD**

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In the Matter of Water Quality Certification for the

**PACIFIC GAS AND ELECTRIC COMPANY  
SPRING GAP-STANISLAUS HYDROELECTRIC PROJECT****FEDERAL ENERGY REGULATORY COMMISSION PROJECT NO. 2130**

SOURCES: Middle and South Forks of the Stanislaus River and Tributaries

COUNTY: Tuolumne

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**Introduction**

Pacific Gas and Electric Company (PG&E or Licensee) applied to the Federal Energy Regulatory Commission (FERC) for a new license for the Spring Gap-Stanislaus Project (Project). The Project is located on the Middle and South Forks of the Stanislaus River in the Stanislaus National Forest near the town of Strawberry. The existing Spring Gap-Stanislaus Project is composed of four developments: Relief, Strawberry (Pinecrest Lake), Spring Gap, and Stanislaus as described in the Application for New License dated December 2002, that have a combined installed capacity of 87.9 megawatts. The Project includes the removal of the Stanislaus Afterbay Dam that poses a threat to the public.

Before FERC can issue a new license for the Project, PG&E must obtain water quality certification under section 401 of the Clean Water Act from the State Water Resources Control Board (State Water Board) (33 U.S.C. § 1341). The State Water Board must certify that the Project will comply with the applicable provisions of the Clean Water Act, including water quality standards set forth in the Water Quality Control Plan for the Sacramento and San Joaquin River Basin (Basin Plan). The Basin Plan designates the beneficial uses of waters to be protected along with the water quality objectives necessary to protect those uses that together are the water quality standards. The Basin Plan lists municipal and domestic supply, agricultural supply, hydropower generation, water contact recreation, non-contact water recreation, warm freshwater habitat, cold freshwater habitat, and wildlife habitat as beneficial uses for the Stanislaus River above New Melones Reservoir. The State Water Board analyzes the Project's overall effect on water quality and includes conditions in the certification, if necessary, to adequately protect the designated beneficial uses identified in the Basin Plan.

### **Stanislaus Planning Action Team**

The Stanislaus Planning Action Team (SPLAT) was a collaborative group formed by PG&E and Tri-Dam Project to help interested parties develop recommended resource measures for the Spring Gap-Stanislaus, Beardsley/Donnells, Tulloch, and Donnells-Curtis Projects. In late 2003 and early 2004, the SPLAT participants reached consensus on recommended resource measures for the Spring Gap-Stanislaus Project. The concurring SPLAT participants (which included the California Department of Fish and Game (CDFG), Central Sierra Environmental Resource Center, Stanislaus National Forest, Friends of the River, PG&E, Tuolumne Utilities District, Tri-Dam Project, Trout Unlimited, National Park Service, and American Whitewater) reached consensus on recommended resource measures that were filed by letter with FERC. In the letter, SPLAT requested that FERC consider the consensus recommended resource measures for the Spring Gap-Stanislaus Project in its Environmental Impact Statement (EIS). State Water Board staff provided input on Basin Plan water quality standards compliance to the SPLAT as it developed recommended resource measures, and assisted the SPLAT in crafting proposed measures with full consideration of the water quality standards. In general, the SPLAT recommended resource measures adequately protect designated beneficial uses and properly balance the needs of various flow-dependent resources. A more detailed rationale for each SPLAT measure is contained in the Recommended Resource Measures for the Spring Gap-Stanislaus Project dated March 1, 2004, and is incorporated into this certification by reference. Water quality certification conditions implement the substantive requirements of the flow-related Protection Mitigation and Enhancement (PM&E) measures in the SPLAT Agreement, with some language amendments designed to make the measures enforceable conditions.

### **Water Quality Impairments**

Upon review of existing watershed data and studies conducted by PG&E for the relicensing of the project, the following impairments to the beneficial uses were identified and are addressed with the conditions in this water quality certification:

#### Ramping Rates

PG&E has the ability to alter stream flows at a time of year when unregulated stream flows would otherwise be stable. Ramping rates are needed during Licensee-controlled changes in regulated streamflow to avoid stranding or displacement of aquatic biota. This certification requires a ramping rate based on the stage-flow relationship of naturally occurring rates of stage change resulting from natural events, such as storms, and is consistent with such events. The measure refers to "regulated" streamflows to distinguish from "spill" flows over which the Licensee has little or no control. The six-inch per hour ramping rate refers to stage change as opposed to a change in flow rate because it is the rate of stage change in the stream channel that affects stranding and displacement. Facility modifications necessary to achieve the specified ramping rates may take a considerable amount of time to design, permit and construct, and shall occur no later than three years after license issuance. Licensee is required to make a good faith effort to provide the specified ramping rate until such facility modifications are completed.

#### Middle Fork Stanislaus River Water Temperature and Fish Habitat

Flows below the Sand Bar Diversion Dam during the warm summer months (July, August and September) are significantly less under the regulated hydrology compared to the unimpaired hydrology, which results in elevated water temperatures and reduced fish habitat. Current flow conditions in this reach are not adequate to protect cold freshwater habitat; however, the Middle

Fork Stanislaus River (MFSR) is a transitional reach, which provides habitat for cold, eurythermal, and warm water species. The flow regime developed by the SPLAT, and required in this certification, balances the needs of cold and warm water aquatic species that use the Sand Bar Dam Reach during the entire year. The Minimum Supplemental Flows condition in this certification is expected to protect the beneficial uses by more closely mimicking the shape of the natural hydrograph and providing seasonal cues for spawning. The annual variability of the timing and magnitude of the Minimum Supplemental Flows condition is anticipated to protect the beneficial uses by providing more natural annual variation in spring runoff.

#### Middle Fork Stanislaus River, Flow Fluctuations

Under certain conditions, the Sand Bar Project releases water in excess of the capacity of the Spring Gap-Stanislaus Project. If operation of the Stanislaus Powerhouse and the Sand Bar Project are not closely coordinated, flows from the Sand Bar Project can spill over the Sand Bar Diversion Dam, causing flow fluctuations in the MFSR to the detriment of macroinvertebrates, fish, and certain life stages of foothill yellow legged frog (FYLF). The condition in the certification specifically identifies the need for coordinated operation with regard to the Spring Gap-Stanislaus licensee providing specified minimum Daily, Supplemental, and Recreation Streamflow Event flows in the Sand Bar Dam Reach, because the Spring Gap-Stanislaus licensee cannot provide all of these flows without the cooperation of the Beardsley/Donnells licensee. A Coordinated Operations Agreement has been developed with the Oakdale and South San Joaquin Irrigation Districts, Tri-Dam Power Authority, and PG&E. The agreement will avoid release of flows in excess of the capacity of the Stanislaus Power Tunnel, and provide water necessary for minimum flows.

#### *A. South Fork Stanislaus River/ Pinecrest Lake Recreation, Water Temperature and Trout Habitat*

The flow condition in the certification for the South Fork Stanislaus River (SFSR) maintains lake levels at Pinecrest Lake for recreation, adequate and stable instream flows for fish and amphibians, Tuolumne Utilities District's (TUD's) consumptive water demands, and water for power generation through the Philadelphia Diversion. In general, consumptive water supply and ecological flows after the end of the spill period require water releases from Pinecrest Lake which are in direct conflict with the recreation objective of keeping the water surface elevation high between Memorial Day and Labor Day weekends. Additionally, the lack of flow conditions in the existing FERC license has resulted in periods of very low streamflow during the summer followed by periods of higher streamflow in the fall periods and lower flows in late fall and winter between Pinecrest Lake and Lyons Reservoir.

The SPLAT proposed developing a drawdown curve in consultation with PG&E, Forest Service, State Water Board, CDFG and TUD by April 15 of each year. State Water Board staff developed an alternative measure after PG&E conducted additional operations modeling that achieves the goals developed by the SPLAT of maintaining adequate streamflows, maintaining lake levels to support recreation, providing water for power generation, and meeting TUD consumptive demand, without yearly consultation.

#### Relief Reach Stanislaus River

Relief Reservoir is used to store water that is subsequently released into the Relief Reach to Tri-Dam's Donnells Reservoir, where it is stored and diverted for power generation at Donnells Powerhouse and other powerhouses downstream. There are no power generation facilities at

Relief Reservoir or in the Relief Reach. Under the current FERC license, stored water is released from Relief Reservoir in the late summer or early fall. This flow regime was shown to have a negative impact on stream geomorphology, cottonwood recruitment, amphibians (including mountain yellow legged frogs), and trout. The condition in the certification for the Reservoir Drawdown and Streamflows in the Relief Reach creates a regulated hydrograph with a shape that more closely resembles the shape of the unimpaired hydrograph, while avoiding increased spill at Donnell's Reservoir and the associated reduction in power generation. The measure achieves this with a combination of operational objectives, which are intended to guide the Licensee in developing an annual "best fit" drawdown curve for Relief Reservoir along with specified minimum and, in some cases, maximum streamflows, which are intended to assure that stream ecology needs are met.

The condition specifies minimum streamflows for all months and also specifies maximum streamflows for some months. The minimum streamflows are intended to meet ecological needs. The maximum streamflows in August and September protect cottonwood seedlings in the Kennedy Meadows area, and the maximum streamflows during the winter months assure a favorably shaped drawdown curve. The conditions substantially achieve desired conditions identified for water use and quality, including the protection of beneficial uses and watershed health.

### **White Water Boating**

The MFSR and SFSR provided whitewater boating opportunities only during the spring high flow period. Based on whitewater boating study results, SPLAT determined that spill flows would provide adequate whitewater boating recreation opportunity on the Relief, Pinecrest, and Philadelphia reaches, particularly given the low demand and relatively high difficulty of runs on these reaches. However, project operations could result in multiple, consecutive non-spill years on the Sand Bar Dam Reach that would not provide adequate opportunity for boating on the Sand Bar and Mt. Knight runs.

To address this issue, the certification includes a condition that in the third of three consecutive years of no boating opportunity on the Sand Bar Dam Reach, the Licensee will make a good faith effort to provide a boating opportunity on two consecutive weekend days. The two-day concept will give boaters the opportunity to boat the Sand Bar run the first day, camp along the river, and then boat the Mt. Knight run the second day. The "good faith" provision and the multiple exceptions are intended to recognize that the Licensee has limited control on flows coming into Sand Bar Diversion Dam, that under certain circumstances the water may have far more value for electric generation than for recreation, and that the boating flows may potentially cause unanticipated resource damage. Further study is needed to clarify the minimum acceptable flow for whitewater boating in the Sand Bar and Mt. Knight Reaches.

### **Entrainment**

Based on the design of the Stanislaus Power Tunnel, the high potential for entrainment, and lower trout populations below the diversion, studies were developed and conducted to quantify the level of entrainment. Based on this information, it was determined the level of entrainment was significant and that a fish screen was needed to protect fish populations. This certification requires PG&E to construct a fish screen at the entrance to the Stanislaus Power Tunnel that will prevent the entrainment of fish.



Spill Channels

The existing FERC license for the Spring Gap-Stanislaus Project does not include any specific limitations or operational guidelines to protect water quality during the operation of the Spring Gap Forebay spill channel or Stanislaus Forebay spill channel. Based on results of monitoring, short term spills will not result in significant impacts to aquatic resources; however, the use of the spill channels needs to be minimized and monitored. This certification requires the Licensee to develop a plan to minimize the spill channel use (timing and duration), both from a water use standpoint and for protection of water quality and environmental resources.

Stanislaus Afterbay Dam

The Stanislaus Afterbay Dam is located on the MFSR just upstream of New Melones Dam and was constructed in 1961 to attenuate flow fluctuations from the Stanislaus Powerhouse. The dam impounds 31.6 acre-feet (af) of water and is timber-faced with steelbuttresses supported on concrete slabs up to 30 feet wide. The maximum water surface of New Melones Reservoir inundates the afterbay dam, essentially rendering it obsolete and non-functional. FERC has requested that PG&E remove the dam because it is no longer functional, and has been essentially abandoned in place. The gates are no longer operational and the top three feet of timber planks have been removed from portions of the right side buttresses. Details of the removal are described in the Initial Study.

**Findings**

1. The Federal Clean Water Act (33 U.S.C. §§ 1251-1387) was enacted “to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.” (33 U.S.C. § 1251(a).) Section 101 of the Clean Water Act (33 U.S.C. § 1251 (g)) requires federal agencies to “co-operate with the State and local agencies to develop comprehensive solutions to prevent, reduce and eliminate pollution in concert with programs for managing water resources.”
2. Section 401 of the Clean Water Act (33 U.S.C. §1341) requires every applicant for a federal license or permit which may result in a discharge into navigable waters to provide the licensing or permitting federal agency with certification that the project will be in compliance with specified provisions of the Clean Water Act, including water quality standards and implementation plans promulgated pursuant to section 303 of the Clean Water Act (33 U.S.C. § 1313). Clean Water Act section 401 directs the agency responsible for certification to prescribe effluent limitations and other limitations necessary to ensure compliance with the Clean Water Act and with any other appropriate requirement of state law. Section 401 further provides that state certification conditions shall become conditions of any federal license or permit for the project. The State Water Resources Control Board (State Water Board) has delegated this function to the Executive Director by regulation. (Cal. Code Regs., tit. 23, § 3838, subd. (a).)
3. The California Regional Water Quality Control Boards have adopted, and the State Water Board has approved, water quality control plans (basin plans) for each watershed basin in the State. The basin plans designate the beneficial uses of waters within each watershed basin, and water quality objectives designed to protect those uses. Section 303 of the Clean Water Act requires the states to develop and adopt water quality standards. (33 U.S.C. § 1313.) The beneficial uses together with the water quality objectives that are contained in the basin plans constitute State water quality standards under section 303.

4. The Water Quality Control Plan for the Central Valley-Sacramento and San Joaquin River Basins (Basin Plan) identifies municipal and domestic supply, irrigation, stock watering, hydropower, warm and cold freshwater habitat, wildlife habitat, contact and non-contact recreation, canoeing, and rafting as beneficial uses of the Stanislaus River above New Melones Reservoir. Protection of the instream beneficial uses identified in the Basin Plan requires maintenance of adequate instream flows as well as effluent limitations and other limitations on discharges of pollutants from point and nonpoint sources to the Middle Fork Stanislaus River and its tributaries.
5. The State Water Board has reviewed and considered the Stanislaus Planning Action Team recommended resource measures for the Spring Gap-Stanislaus Project; PG&E's final Federal Energy Regulatory Commission (FERC) License Application; comments on the final License Application by agencies and interested parties; the U.S. Forest Service Final 4(e) Conditions; and the FERC Final Environmental Impact Statement prepared pursuant to the National Environmental Policy Act for the Stanislaus River Projects. Further, the State Water Board has considered the basin plan, the existing water quality conditions, and project-related controllable factors.
6. The State Water Board is the lead agency under the California Environmental Quality Act (CEQA), in connection with the proceeding to issue water quality certifications for the Project. (Pub. Resources Code, §§ 21000-21177.) Under CEQA, a project may be analyzed for its incremental effects over existing baseline conditions. In an analysis of an already existing hydroelectric project, reauthorizing the project will not yield many environmental impacts because most of the impacts have already occurred and, when compared to the existing condition, do not register as significant. In contrast, water quality certification requires an analysis of a project's overall effect on water quality, including whether the designated beneficial uses identified in the Basin Plan are adequately protected. Water quality certification may also review a project's effects on public trust resources. The water quality certification analysis is based not only on proposed modifications to Project operations from the existing condition, but also on whether past, existing, or future operations impair or degrade water quality.
7. On August 1, 2007, the State Water Board provided an initial study and notice of intent to adopt a mitigated negative declaration (SCH # 2007082008) for the project. (Cal. Code Regs., tit. 14, § 15072.) The mitigated negative declaration and initial study reflects the State Water Board's independent judgment and analysis. After considering the documents and comments received during the public review process, the State Water Board hereby determines that the proposed project, with mitigation measures, will not have a significant effect on the environment. The mitigated negative declaration is hereby adopted. The documents or other material, which constitute the record, are located at the State Water Board, Division of Water Rights, 1001 I Street, Sacramento. The State Water Board will file a Notice of Determination within five days from the issuance of this order.
8. Public Resources Code section 21081.6(a) requires that if a public agency makes changes or alterations in a project to mitigate or avoid the significant adverse environmental effects of the project, it must adopt a monitoring or reporting program to ensure compliance with the changes or alterations. The mitigation and reporting plan is included as Attachment A to this certification.
9. On August 1, 2007, State Water Board staff issued a draft water quality certification for public review. On August 1, 2007, the State Water Board issued notice pursuant to section

3858 of the California Code of Regulations that it intended to issue water quality certification after a 21 day notice period.

**ACCORDINGLY, BASED ON ITS INDEPENDENT REVIEW OF THE RECORD, THE STATE WATER BOARD CERTIFIES THAT THE OPERATION OF THE SPRING GAP-STANISLAUS PROJECT BY THE PACIFIC GAS AND ELECTRIC COMPANY UNDER A NEW LICENCE ISSUED BY FERC, AS DESCRIBED IN IT'S APPLICATION FOR NEW LICENSE DATED DECEMBER 2002,** will comply with sections 301, 302, 303, 306 and 307 of the Clean Water Act, and with applicable provisions of state law, provided Pacific Gas and Electric Company complies with the following terms and conditions:

1. Each year from February through May, Licensee shall determine water-year type based on the California Department of Water Resource's (DWR) forecast for annual unimpaired inflow into New Melones Reservoir (as set forth in DWR's Bulletin 120 entitled *Water Conditions in California*). Licensee shall use this determination in implementing conditions of this certification that are dependent on water-year type. From February through April, the water-year type based on DWR's forecast for the month shall apply from the 10<sup>th</sup> day of the month through the 9<sup>th</sup> day of the next month. From May 10 through February 9 of the following calendar year, the water-year type shall be based on DWR's May 1 forecast. The Licensee shall maintain a five-year record of its water-year type determinations, and shall provide this record to the State Water Board Deputy Director for Water Rights (Deputy Director) annually.

#### **Water-Year Types for the Spring Gap-Stanislus Project**

<u>Water-Year Type</u>	<b>DWR Forecast Annual Unimpaired Inflow to New Melones Reservoir (acre-feet)</b>
Critically Dry	Less than or equal to 350,000
Dry	Greater than 350,000 and less than or equal to 676,000
Normal	Greater than 676,000 and less than 1,585,000
Normal-Dry	Greater than 676,000 and less than 1,050,000
Normal-Wet	Greater than or equal to 1,050,000 and less than 1,585,000
Wet	Greater than or equal to 1,585,000

2. The Licensee shall annually, beginning the first full calendar year after license issuance, develop a "best fit" drawdown curve for Relief Reservoir based on that year's hydrological conditions. The drawdown curve shall be designed to meet the specified Relief Reach minimum and maximum streamflow requirements for the water-year type, and achieve the Operational Objectives specified below. Relief Reach is defined as the 15.8 mile-long reach of Summit Creek and the Middle Fork Stanislaus River from Relief Dam to Donnell's Reservoir.

#### Operational Objectives

- Streamflow in the Relief Reach, as measured at Kennedy Meadows, mimics the shape of the unimpaired hydrograph, with peak flows in late spring, declining flows from the spring peak until October (except for increases due to natural events), and relatively uniform flows from November through March;
- The transition from spill flows to regulated flows is smooth, without significant decreases and increases in flows other than from natural events, achieving a rate of decline and a

range of fluctuation that are within the natural range of variability of the unimpaired hydrograph;

- Streamflow fluctuation in response to natural events, such as storms and variation in rate of snowmelt, is allowed;
- The rate and magnitude of changes in regulated streamflows is gradual and within the natural range of variability of the unimpaired hydrograph for the time of year;
- Relief Reservoir is able to annually fill and be drawn down to minimum pool;
- The water stored in Relief Reservoir is adequate to meet the specified minimum streamflow requirements;
- Avoidable spill at Donnell's Reservoir is minimized; and
- Relief Reservoir operation is responsive to annual hydrological conditions.

The Licensee shall develop its proposed Relief Reservoir drawdown curve and estimated Relief Reach streamflow regime and provide it, along with the prior year's Kennedy Meadows flow gage daily data and Relief Reservoir water surface elevations, to the Deputy Director no later than April 15 of each year.

The Licensee shall operate Relief Reservoir in conformance with the minimum and maximum streamflow requirements shown in the table below, as may be modified by an approved alternate streamflow regime, and to achieve the specified Operational Objectives. Additionally, the Licensee shall maintain a year-round streamflow in Summit Creek between Relief Dam and Kennedy Creek of at least 5 cubic feet per second (cfs), and shall maintain a minimum pool in Relief Reservoir of at least 200 acre-feet. The Licensee shall, within one year of license issuance, develop and file with the Deputy Director, a plan for monitoring compliance with the 5 cfs requirement.

If the Licensee anticipates at any time that it cannot meet the minimum and/or maximum streamflow requirements it shall notify the Deputy Director, labeling the notification "Compliance Item, Immediate Attention Requested" and provide an alternate streamflow regime and drawdown curve for the year that meets the specified minimum and maximum streamflow requirements and achieves the specified Operational Objectives to the greatest extent feasible. The Deputy Director shall be provided 30 days to review, and if acceptable, approve the Licensee's alternate streamflow regime.

The specified minimum streamflows are the minimum mean flow over a continuous 24-hour period. Except as provided below for the months of November through March, instantaneous streamflow may, on an infrequent basis, deviate below the specified minimum streamflow up to 10 percent.

The specified maximum streamflows are the instantaneous maximums for the month. The Licensee shall make a good faith effort to maintain actual streamflows within the specified maximums. However, the Licensee is not required to adjust the Relief Reservoir outlet gate in response to short-term (not greater than approximately one week in length) natural events such as storms, variations in rate of snow melt, and accretion flows. In complying with the specified maximum streamflows, the Licensee shall attempt to under-run the maximum streamflows specified for August and September to the greatest extent feasible, consistent with actual hydrological conditions.

The specified minimum and maximum streamflows for November through March are target streamflows. By November of each year, the Licensee shall forecast the inflow to Relief

Reservoir for the period December through March, and set the Relief Dam outlet gate at an opening to achieve the streamflow in the approved Relief Reservoir drawdown plan. The Licensee shall monitor Relief Reservoir water surface elevation with at least weekly readings for December through March to confirm that the outlet gate is at an appropriate setting to achieve the target streamflow range. Upon a determination that the outlet gate setting needs adjustment to achieve the target streamflow range, the Licensee shall make a good faith effort to adjust the outlet gate, subject to personnel safety and access limitations.

a. **Minimum and Maximum Streamflows for the Relief Reach (cfs)**<sup>1, 2</sup>

<b>Month</b>	<b>Water-Year Type</b>					
	<b>Normal</b>		<b>Dry and Critically Dry</b>		<b>Wet</b>	
	<b>Min</b>	<b>Max</b>	<b>Min</b>	<b>Max</b>	<b>Min</b>	<b>Max</b>
October 1-31	30	50	20	40	40	125
November 1-30	30	60	20	50	40	125
December 1-31	30	60	20	50	40	125
January 1–February 9	30	60	20	50	40	125
February 10-March 9	30	60	20	50	40	125
March 10-April 9	30	60	25	50	40	125
April 10-May 9	60	NA	45	NA	70	NA
May 10-May 31	100	NA	80	NA	150	NA
June 1-30	150	NA	100	NA	250	NA
July 1-31	90	NA	40	NA	200	NA
August 1-31	40	200	20	40	100	300
September 1-30	30	120	20	40	60	200

(a) <sup>1</sup>**The specified maximum and minimum streamflows are made up of flow releases from Relief Reservoir, unregulated accretion flows from Kennedy Creek and other sources, as measured at USGS gage 11292000 (PG&E gage S-52) in Kennedy Meadows.**

(b) <sup>2</sup>**NA: Not Applicable**

- Beginning no more than six months after license issuance, Licensee shall maintain minimum streamflows made up of minimum Daily Flows and minimum Supplemental Flows in the Sand Bar Dam Reach in Normal, Dry, Critically Dry and Wet water-years as specified below. The Sand Bar Dam Reach is the 12.3 mile-long reach of the Middle Fork Stanislaus River extending from Sand Bar Diversion Dam to the confluence of the Middle Fork Stanislaus River with the North Fork Stanislaus River. Minimum Daily Flows and minimum Supplemental Flows may consist of any combination of spill, accretion and regulated flows.

**Minimum Daily Flows**

Licensee shall maintain the minimum Daily Flows in the following table in the Sand Bar Dam Reach. The specified minimum Daily Flow is the minimum mean flow over a continuous

24-hour period. Instantaneous flow may, on an infrequent basis, deviate below the specified minimum Daily Flow by up to 10 percent or 8 cfs, whichever is less.

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**Minimum Daily Flow schedule for the Sand Bar Dam Reach (cfs) <sup>1, 2, 3</sup>**

<i>Month</i>	<i>Water-Year Type</i>		
	<i>Normal</i>	<i>Dry and Critically Dry</i>	<i>Wet</i>
October 1-31	80	50	80
November 1-30	70	50	70
December 1-31	70	50	70
January 1 - February 9	70	50	70
February 10 - March 9	70	50	70
March 10 - April 9	80	50	80
April 10 - May 9	80	50	80
May 10 – May 31	80	50	80
June 1 – 30	80	50	80
July 1- 31	80	60	100
August 1 – 31	80	60	100
September 1 – 30	80	50	100

(c) <sup>1</sup>The compliance location for the minimum Daily Flows shall be USGS gage 11293200 (PG&E gage S-12).

(d) <sup>2</sup>The minimum required Daily Flow is the amount indicated or, if the inflow to Sand Bar Diversion Dam is less than the amount indicated due to reasons outside the Licensee's control, the inflow to Sand Bar Diversion Dam.

<sup>3</sup>Minimum Supplemental Flows that are additive to the specified minimum Daily Flows shall be provided during a continuous thirteen-week period (seven weeks in Critically Dry years) between March 1 and July 31.

## Minimum Supplemental Flows

Licensee shall, in addition to the minimum Daily Flows specified above, maintain the minimum Supplemental Flows specified in the following table, provided such flows are available to the Licensee at Sand Bar Diversion Dam. The specified minimum Supplemental Flow for a week is the average flow for the week, with instantaneous flows at least equal to the specified minimum Supplemental Flow for the lower of the two adjoining weeks.

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**Minimum Supplemental Flow schedule for the Sand Bar Dam Reach (cfs)<sup>1,2,3,4</sup>**

Week	Water-Year Type			
	Normal	Dry	Critically Dry	Wet
1	5	5	15	5
2	10	10	75	10
3	25	25	250	25
4	35	35	150	35
5	75	75	100	75
6	140	140	40	140
7	220	220	20	220
8	400	400	NA	400
9	180	180	NA	180
10	110	110	NA	110
11	65	65	NA	65
12	25	25	NA	25
13	10	10	NA	10

(e) <sup>1</sup>The compliance location for the minimum Supplemental Flows shall be USGS gage 11293200 (PG&E gage S-12) below Sand Bar Diversion Dam for the first 200 cfs. Flows in excess of 200 cfs shall be calculated by summing the flow contributions from Beardsley Afterbay Dam (gage S-89), Sand Bar Powerhouse and Spring-Gap Powerhouse and subtracting the flow diverted at Sand Bar Diversion Dam. If PG&E gage S-12 is upgraded to measure flows in excess of 200 cfs, it shall be used for flow measurement up to its upgraded rating.

(f) <sup>2</sup>The minimum required Supplemental Flow is the amount indicated or, if the inflow to Sand Bar Diversion Dam is less than the amount indicated due to reasons outside the Licensee's control, the inflow to Sand Bar Diversion Dam.

(g) <sup>3</sup>The minimum Supplemental Flows are additive to the specified minimum Daily Flows.

(h) <sup>4</sup>NA: Not Applicable

The Supplemental Flow period shall be 13 continuous weeks in length (seven weeks in Critically Dry water-years). For years in which Beardsley Reservoir is forecast to spill, the Licensee may initiate the Supplemental Flow period any time between March 1 and May 1 to best coincide with the period of spill (Date Trigger). For years in which Beardsley Reservoir is forecast not to spill, the Licensee shall initiate the Supplemental Flow period at a time between March 1 and May 1 so that the peak Supplemental Flow will occur

approximately two weeks after the then-forecast peak inflow to Donnell's Reservoir (Peak Flow Trigger).

The Licensee shall consult with the U.S. Forest Service (USFS), Deputy Director, California Department of Fish and Game (CDFG), Fish and Wildlife Service (FWS) and other interested parties to develop a recommendation for a Water Temperature Trigger to function in combination with the Date and Peak Flow Triggers described above for initiating Supplemental Flows in years that Beardsley Dam is forecast not to spill. The Water Temperature Trigger shall not apply for years in which Beardsley Reservoir is forecast to spill. The Water Temperature Trigger shall be developed based on available information. The Licensee shall, within one year of license issuance, file with the Federal Energy Regulatory Commission (FERC) a Water Temperature Trigger recommendation, including evidence of consultation, and shall implement the Water Temperature Trigger approved by the USFS, State Water Board, and FERC. Use of the Water Temperature Trigger shall be based on water temperatures measured using a continuous water temperature recorder installed and maintained by the Licensee at Sand Bar Diversion Dam.

The Licensee may meet the Supplemental Flow requirement with flow magnitudes in excess of those specified. However, the rate of decline in flow shall be no steeper than the specified decline for Supplemental Flows any time actual streamflow immediately below Sand Bar Diversion Dam is less than the peak magnitude specified for the Supplemental Flow. Exceptions to the decline rate are allowed when natural events, such as storms and variation in rate of snowmelt, cause short duration (not greater than approximately one week in length) flow fluctuations that exceed the flows specified for the declining limb of the Supplemental Flow. The Licensee shall make downward adjustments in Supplemental Flows in approximately equal steps to achieve a smooth decline.

4. The Licensee shall maintain the minimum streamflow schedule for the Pinecrest Reach between Strawberry Dam and the Philadelphia Diversion and in the Philadelphia Reach below the Philadelphia Diversion Dam in the SFSR, as specified in the following tables. In addition, the Licensee shall maintain a year-round minimum streamflow of 5 cfs in SFSR below Strawberry Dam. In years when Pinecrest Reservoir cannot be maintained above target elevation 5,610 feet, water releases during the period from the End of Spill through Labor Day shall only be made to meet the minimum streamflow schedule and Spring Gap Powerhouse Demand. Licensee shall draw down Pinecrest Reservoir to reach a target elevation of 5,615 feet as early as reasonably feasible each year after the End of Spill, provided that minimum streamflow schedule and Spring Gap Powerhouse Demand can be met, and Pinecrest Reservoir elevation can be maintained above a target elevation of 5,610 feet prior to and including Labor Day.

End of Spill is when the reservoir elevation falls below elevation 5,617 feet and the inflow to Pinecrest Lake decreases so that the diurnal fluctuation does not cause the water surface elevation to exceed elevation 5,617 feet and the outlet valve is used by Licensee to control water releases from Strawberry Dam.

#### Spring Gap Powerhouse Demand

During the period from the end of spill at Strawberry Dam until Labor Day, diversion of water to the Philadelphia Canal shall be a maximum flow of 5 cfs (the maximum flow is the mean flow over a continuous 24-hour period; the instantaneous streamflow may, on an infrequent basis, exceed the specified maximum flow by up to 1 cfs), except:



- a. During transmission line outages that require Spring Gap Powerhouse to govern local electric system load, or for Spring Gap Powerhouse maintenance, including start-up testing. Licensee shall use the minimum flow amount necessary to meet local load requirements or start-up testing procedures.
- b. When excess storage is available in Pinecrest Reservoir above that needed to meet the minimum stream flow schedule and maintain a reservoir elevation above target elevation 5,610 feet prior to and including Labor Day.
- c. When flow is available from Herring Creek above that needed to meet the minimum streamflow schedule.

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**Minimum streamflow schedule for the Pinecrest Reach (cfs) <sup>1, 2</sup>**

<b>Month</b>	<b>Water-Year Type</b>			
	<b>Dry</b>	<b>Normal-Dry</b>	<b>Normal-Wet</b>	<b>Wet</b>
October 1-31	10	10	15	15
November 1-30	10	10	15	15
December 1-31	10	10	10	15
January 1 – February 9	10	10	10	15
February 10 – March 9	10	10	10	15
March 10 - April 9	10	10	10	15
April 10 - May 9	10	10	15	15
May 10 – May 31	10	10	15	15
June 1 – 30	10	10	15	15
July 1- 31	10	10	15	15
August 1 – 31	10	10	15	15
September 1 – 30	10	10	15	15

(i) <sup>1</sup> The compliance location for the minimum streamflows shall be USGS gage 11296500 (PG&E gage S-61) on the SFSR below Herring Creek.

(j) <sup>2</sup> Once Pinecrest Lake has reached the specified minimum storage of 500 acre-feet, the minimum required streamflow is the amount indicated, or the inflow to Pinecrest Lake plus accretion flows from Herring Creek, whichever is less.

**Minimum streamflow schedule for the Philadelphia Reach (cfs)<sup>1, 2</sup>**

<b>Month</b>	<b>Water-Year Type</b>			
	<b>Dry</b>	<b>Normal-Dry</b>	<b>Normal-Wet</b>	<b>Wet</b>
October 1-31	10	10	15	15
November 1-30	10	10	15	15
December 1-31	10	10	10	15
January 1 – February 9	10	10	10	15
January 1 – February 9	10	10	10	15
March 10 - April 9	10	10	10	15
April 10 - May 9	10	10	15	15
May 10 – May 31	10	10	15	15
June 1 – 30	10	10	15	15
July 1- 31	10	10	15	15
August 1 – 31	10	10	15	15
September 1 – 30	10	10	15	15

<sup>1</sup> The compliance location for the minimum streamflows shall be USGS gage 11297200 (PG&E gage S-83) below Philadelphia Diversion.

<sup>2</sup> Once Pinecrest Lake has reached the specified minimum storage of 500 acre-feet, the minimum required streamflow is the amount indicated, or the inflow to Pinecrest Lake plus accretion flows between Strawberry Dam and Philadelphia Diversion, whichever is less.

The Licensee shall, within one year of license issuance, develop and file a plan for monitoring compliance with the 5 cfs minimum streamflow requirement below Strawberry Dam for approval by the Deputy Director. The specified minimum streamflow schedule in this condition is the mean flow over a continuous 24-hour period. Instantaneous streamflow may, on an infrequent basis, deviate below the specified minimum streamflow by up to 10 percent. However, the Licensee shall make a good faith effort to meet the specified minimum streamflows at all times.

Pinecrest Reservoir shall not be drawn down below 500 acre-feet (af), except after approval of the Deputy Director. From Labor Day to December 31, regulated streamflows in the Philadelphia Reach shall not be greater than 60 cfs.

No later than April 15 of each year, the Licensee shall develop and submit a Pinecrest Lake drawdown curve to USFS, DFG and Tuolumne Utilities District, and others that request such information.

The target elevation of 5,610 feet at Labor Day may be modified and reduced to not lower than 5,608 feet if the Deputy Director determines that substantial evidence demonstrates that the recreational beneficial uses of the reservoir will be supported at the reduced elevation.

5. In Critically Dry water-years, the Licensee may propose modifications to the flow requirements specified above. Licensee shall consult with the Deputy Director and provide justification for modifications to the flow requirements. The Licensee shall maintain the specified flows until modifications are approved by the Deputy Director.

6. The flow requirements specified above are subject to temporary modifications if required by equipment malfunction, agency requirements, emergency or law enforcement activity, or critical electrical system emergencies beyond the control of the Licensee. In the event of such temporary modifications, the Licensee shall promptly notify the Deputy Director labeling the notification "Compliance Item, Immediate Attention Requested". The flow requirements are also subject to modification, upon approval of the Deputy Director and FERC, based on the results of studies to improve streambank stability and restoration of riparian vegetation in the Relief Reach between Kennedy Meadows and Eureka Valley.
7. Where facility modification is required to implement the specified minimum streamflows, the Licensee shall complete such modifications as soon as reasonably practicable and no later than 3 years after license issuance. Prior to completion of such required facility modifications, the Licensee shall make a good faith effort to achieve the specified minimum streamflows within the capabilities of the existing facilities.
8. The Licensee shall, by the end of the first full calendar year after license issuance, prepare detailed plans for construction, operation, and testing to confirm compliance with the specified design criteria of a fish screen at the entrance to Stanislaus Power Tunnel. Upon completion, the Licensee shall submit the plans and drawings to the Deputy Director and provide 90 days for their review, comment and approval. The Licensee shall construct the fish screen approved by the Deputy Director within 4 years following approval of the plans and drawings.

The fish screen shall be designed using as guidelines the Environmental and Operational Objectives identified below:

#### Environmental Objectives

- Reduce entrainment of all life-stages of trout from Middle Fork Stanislaus River into Stanislaus Power Tunnel to less than significant levels, and
- Provide for all life-stages of trout in the Middle Fork Stanislaus River to pass downstream of Sand Bar Diversion Dam.

#### Operational Objectives

- No reduction in reliability, or hydraulic or electrical capacity of Stanislaus Powerhouse;
- Fish screen design is consistent with providing minimum Daily Flows and minimum Supplemental Flows in Sand Bar Dam Reach downstream of Sand Bar Diversion Dam;
- Provide for automated cleaning of the fish screen to avoid clogging;
- In the event the fish screen becomes clogged, provide for continued flow in Stanislaus Power Tunnel to maintain the operational reliability of Stanislaus Powerhouse and avoid large, rapid fluctuations in streamflows below Sand Bar Diversion Dam;
- Provide for sediment entering the fish screen structure to pass through downstream of Sand Bar Diversion Dam;
- Allow flexibility to determine fish screen maintenance and outage schedule after obtaining operating experience;
- Allow removal or opening of the fish screen during periods of high levels of potentially screen-clogging debris; and
- Provide for opening of the fish screen to assure continued flow in Stanislaus Power Tunnel in the event the fish screen becomes clogged with debris.

Design Criteria

- Flow capacity = 530 cfs;
- Approach velocity = 0.33 to 0.4 feet per second (fps) at fish screen;
- Sweeping velocity = 2 fps or greater at fish screen; and
- Fish screen openings = 1.75 mm for slot width or 3/32 inch for round opening.

The Licensee shall, within 6 months after license issuance, or as otherwise indicated, and in consultation with the USFS, Deputy Director, and CDFG, develop detailed monitoring plans consistent with the descriptions provided below. The Licensee shall provide the final detailed plans, along with all agency comments received and an explanation for any such comments not adopted, to the Deputy Director for final approval. It is anticipated that certain details of the Environmental Monitoring (e.g., specific years of sampling and/or specific study sites) may need modification during development of detailed study plans or during subsequent implementation of the Environmental Monitoring. All such modifications shall be developed in consultation with the USFS, Deputy Director, and CDFG, and approved by these agencies and provided to FERC before implementation.

Relief Reach Riparian Vegetation Restoration and Streambank Stabilization

- Objective: Evaluate the effectiveness of the specified streamflow regime on riparian vegetation restoration and streambank stabilization; evaluate existing streambank conditions; develop and implement vegetation restoration and streambank stabilization measures.
- Phase I: Evaluate existing information, develop recommendations for focused studies (within 12 months of license issuance), and re-evaluate cost of implementation and monitoring. Consult with the USFS, Deputy Director, and CDFG before Phase II is implemented.
- Phase II: Perform focused studies and develop recommended restoration (year 2). Consult with the USFS, Deputy Director, and CDFG before Phase III is implemented.
- Phase III: Implement monitoring and/or restoration (between year 3 and year 10 after license issuance per schedule developed in Phase II and subject to obtaining necessary approvals and permits).

Hardhead Monitoring in Camp Nine Reach and Sand Bar Dam Reach

- Objective: Determine if the specified streamflow regime affects hardhead habitat in the lower portions of the Sand Bar Dam Reach by evaluating hardhead distribution and abundance in the Camp Nine Reach (the 2.4 mile-long section of the Stanislaus River from the confluence of the Middle and North Forks of the Stanislaus River to Stanislaus Powerhouse) and the lower two miles of the Sand Bar Dam Reach.
- Conduct five years of snorkel surveys and/or electrofishing to determine abundance and distribution of hardhead in the Camp Nine Reach and the lower two miles of the Sand Bar Dam Reach, beginning within 12 months of license issuance.
- Radio tag 10-20 hardhead from the Camp Nine Reach in year 1 to determine if hardhead are using the lower Sand Bar Dam Reach or are only using the Camp Nine Reach and New Melones Reservoir. The Licensee shall consult with the USFS, Deputy Director, and CDFG within six months of license issuance to develop a detailed study plan for this task.
- Monitor algae abundance in Sand Bar Dam and Camp Nine reaches to determine relative food availability and evaluate if algae is limiting hardhead use of the lower Sand

Bar Dam Reach. Conduct a general survey of algae abundance in the Sand Bar Dam and Camp Nine reaches within 12 months of license issuance and, if needed, collect additional quantitative algae abundance information within 24 months of license issuance.

- Monitor water temperature for up to five years to coincide with snorkel surveys and/or electrofishing (i.e., same years as for snorkel and/or electrofishing surveys) at the following four sites: (1) Middle Fork Stanislaus River above North Fork Stanislaus River, (2) Stanislaus River above Collierville Powerhouse, (3) Stanislaus River below Collierville Powerhouse, and (4) Stanislaus River below Stanislaus Powerhouse.
- Prepare and distribute to the USFS, Deputy Director, CDFG, and others upon request a final report after five years of study, including recommendations. Submit results of temperature monitoring and snorkel surveys to the USFS, Deputy Director, and CDFG within 6 months following completion of each year of monitoring.

### **Trout Population Monitoring in Spring Gap Reach and Sand Bar Dam Reach**

- Objective: Monitor and evaluate effects of the specified streamflow regime on trout populations in the Sand Bar Dam Reach, using for comparison trout populations in the wild trout reference site established by CDFG upstream of the Spring Gap Reach (the 2.6 mile-long section of Middle Fork Stanislaus River from Spring Gap Powerhouse to Sand Bar Diversion Dam).
- Spring Gap Reach: Provide up to 50 percent of the labor or labor cost (in cooperation with CDFG and Forest Service) needed to electrofish one site (station 6, as identified in the License Application just upstream of Spring Gap Powerhouse) four times consistent with CDFG's three-year survey cycle at this site (expected in 2010, 2013, 2016, and 2019).
- Sand Bar Dam Reach: Perform electrofishing surveys at the lower-most historical site in the Sand Bar Dam Reach (station 4, as identified in the License Application) three times after license issuance to coincide with surveys at station 6 just upstream of the Spring Gap Powerhouse (expected in years 2010, 2013, and 2016).
- Prepare and distribute to the USFS, Deputy Director, CDFG, and others upon request a report within one year following each survey, including recommendations following completion of the study.

### **Foothill Yellow-Legged Frog (FYLF) Monitoring in Sand Bar Dam Reach and Camp Nine Reach**

- Objective: Determine if the specified streamflow regime affects FYLF in the Camp Nine and Sand Bar Dam reaches and collect information to develop a Temperature Trigger for the minimum Supplemental Flows specified for the Sand Bar Dam Reach.
- Complete and distribute to the USFS, Deputy Director, CDFG, and others upon request within 12 months of license issuance, the Licensee's report on 2003 amphibian studies conducted in Relief Reach for Mountain Yellow-legged Frog (MYLF), Philadelphia Reach (Visual Encounter Surveys and flow study for FYLF), Spring Gap Reach (Visual Encounter Surveys for FYLF), and Sand Bar Dam Reach (Visual Encounter Surveys and flow study for FYLF).
- Conduct up to five years of additional Visual Encounter Surveys for FYLF at a total of three known sites with FYLF (based on 2000, 2001, 2003 study results) in the combined Sand Bar Dam Reach and the section of Camp Nine Reach above Collierville

Powerhouse. Survey shall begin approximately 0.5 km below the known sites and end approximately 0.5 km above the known sites.

- Resurvey FYLF habitat at the three monumented stream cross sections that were established by the Licensee in 2003 in Sand Bar Dam Reach to enable monitoring of channel shape and substrate composition. The frequency of surveying cross sections shall be four times during the term of the license (anticipated to be years 5, 10, 15, and 25 after license issuance), and after any winter/spring flow event exceeding a 100-year recurrence interval.
- Conduct water temperature monitoring at three sites (Sand Bar Diversion Dam, mid-Sand Bar Dam Reach, and above the confluence of the Middle and North Forks of the Stanislaus River) to coincide with amphibian surveys. Identify a relationship between water temperatures at Sand Bar Diversion Dam and downstream amphibian breeding sites (including intermittent tributaries) so that implementation of the Temperature Trigger can be done by measuring water temperatures only at Sand Bar Diversion Dam.
- Compile existing relevant and reasonably available FYLF data from other hydroelectric projects in California licensed to Licensee to help develop the Temperature Trigger.
- Prepare and distribute to the USFS, Deputy Director, CDFG, and others upon request a final report, including recommendations, after completion of the study.

#### Mountain Yellow-Legged Frog (MYLF) Monitoring in Relief Reach

- Objective: Determine if the specified streamflow regime or the Licensee's land management practices have an affect on MYLF in the Relief Reach.
  - Perform three years of additional Visual Encounter Surveys in the Kennedy Meadows area (ponds and river), anticipated to be by the end of first, second and third years after license issuance.
  - Determine if MYLF habitat or known populations are affected by the specified streamflow regime or the Licensee's land management practices.
  - Evaluate results and prepare and distribute to the USFS, Deputy Director, CDFG and others upon request, a final report, including recommendations, after completion of study.
9. The Licensee shall, beginning as soon as reasonably feasible and no later than one year after license issuance, annually make recreation streamflow information available to the public as follows. Unless otherwise noted, the flow information shall be available to the public via toll-free phone and Internet, both of which may be accomplished through a third party. The flow information protocols may be modified upon mutual agreement of the Licensee and responsive stakeholders, and approval by the Commission:
- a. From May 1 through October 31, the hourly average streamflow for the Middle Fork Stanislaus River at Kennedy Meadows (Dardanellas and Donnell's Runs), Middle Fork Stanislaus River immediately below Sand Bar Diversion Dam (Sand Bar and Mt. Knight Runs), mainstem Stanislaus River immediately below Stanislaus Powerhouse, South Fork Stanislaus River below Herring Creek (Strawberry Run), and South Fork Stanislaus River immediately below Philadelphia Diversion Dam (lower Strawberry Run). The flow information may be measured, calculated or a combination of the two. The flow information shall be posted at 9 AM, Noon and 4 PM daily for the current day and the past 7 days. Streamflows may be rounded up to the nearest 50 cfs, and all plots and tables showing this data shall be labeled: "These provisional data have not been reviewed or edited and may be subject to significant change."

- b. By April 15, the proposed dates for any Recreation Streamflow Event (if applicable) planned to be provided by the Licensee. The information shall be shown in calendar format, shall specify the proposed flows in cfs, and shall be promptly updated if any changes occur.
  - c. By April 10, a preliminary forecast of the water-year type and the initiation date and duration of anticipated spill at Relief, Beardsley and Pinecrest Dams. The information shall be updated by May 10, and shall be updated weekly thereafter through the duration of the spill period.
  - d. The Licensee shall install and maintain one simple staff gage/depth indicator at each of the following locations: Middle Fork Stanislaus River at Kennedy Meadows (Dardanelles and Donnell's Runs), Middle Fork Stanislaus River at Sand Bar Diversion Dam (Sand Bar and Mt. Knight Runs), mainstem Stanislaus River at Stanislaus Powerhouse, South Fork Stanislaus River below Herring Creek (Strawberry Run), and South Fork Stanislaus River below Philadelphia Diversion Dam (lower Strawberry Run). The Licensee shall make a good faith attempt to locate the staff gages/depth indicators near whitewater boating put-in locations and, if possible, angling access points, so they are easily accessible for public reference. The Licensee shall provide a means at each staff gage/depth indicator to reasonably correlate staff gage/depth indicator readings to cfs.
10. After license issuance, the Licensee shall provide a Recreation Streamflow Event immediately below Sand Bar Diversion Dam (Sand Bar and Mt. Knight runs) on two consecutive weekend days in the third of three consecutive years in which a flow event has not otherwise occurred. A Recreation Streamflow Event is defined as at least two consecutive days from May 15 to the end of the Beardsley Dam spill period when flows immediately below Sand Bar Diversion Dam, as measured or calculated, are between 700 cfs and 2,000 cfs from 10 AM to 3 PM. The Recreation Streamflow Event, if provided by the Licensee, shall take place between May 15 and June 15, but no later than the date of the peak Supplemental Flow. The Recreation Streamflow Event, if provided by the Licensee, shall occur simultaneously with any Supplemental Flow provided by the Licensee. The Licensee shall provide advance public notification of Recreation Streamflow Events provided by the Licensee, including the date and planned flow magnitude, beginning April 15 or as soon as reasonably feasible via the same toll-free phone and Internet system it uses to provide recreation streamflow information to the public. The Licensee's notification for a planned Recreation Streamflow Event shall be as accurate as reasonably feasible, recognizing that streamflows cannot be guaranteed and are subject to change.

All provisions for the Licensee to provide a Recreation Streamflow Event are subject to the safe operability of the Project facilities and equipment necessary to provide such streamflows. The Licensee is relieved from providing the Recreation Streamflow Event described above under the following circumstances: (1) if such events are causing significant ecological damage identified through scientific study, (2) water inflow at Sand Bar Diversion Dam is less than 600 cfs (100 cfs to keep Stanislaus Power Tunnel watered and 500 cfs absolute minimum boating flow), (3) equipment failure or conditions beyond the control of the Licensee from providing the Recreation Streamflow Event in the specified time period, (4) the California Department of Water Resources' May 1 forecast for total unimpaired inflow into New Melones Reservoir is less than 350,000 acre-feet, or (5) after consultation with, and upon the approval of the Deputy Director.

The Licensee shall: (1) provide the scheduled Recreation Streamflow Event on the dates it is scheduled to occur; (2) maintain the operability of Project facilities and equipment necessary to provide such event; (3) not schedule discretionary outages of such facilities and equipment in conflict with providing such event; and (4) co-ordinate with the Licensees of the upstream Beardsley/Donnells and Sand Bar Projects to have sufficient flow into Sand Bar Diversion Dam when the Spring Gap-Stanislaus Licensee has scheduled a Recreation Streamflow Event.

11. Prior to the beginning of construction of the Stanislaus Power Tunnel Fish Screen and the removal of the Stanislaus Afterbay Dam, Licensee shall obtain all necessary permits. Licensee shall submit final construction plans, including measures to protect water quality to the Deputy Director for review and approval prior to beginning work. The plans shall include a water quality monitoring program with monitoring locations upstream and downstream of the project site. The plans shall also include Best Management Practices, and measures that will be used to minimize water quality impacts during instream work.
12. Licensee shall collect sediment samples for selected trace metal analysis from sediment deposited upstream of Stanislaus Afterbay Dam to determine levels of selected metals to insure worker safety and to determine final disposition of the sediments. Sediment samples will be collected at three stations approximately two months prior to construction activities. The methodology and stations selected for sampling will be determined in the field based on access and stream and sediment characteristics. If site characteristics allow, a hand corer may be used to collect the samples. A composite of fine grained material at each station will be collected for analysis of selected trace metals. Sediment samples will be analyzed for mercury, methylmercury, arsenic, copper, nickel, lead, chromium, and silver. Sampling and analytical analysis will be performed in accordance with PG&E Environmental Sciences Quality Assurance Program Plan. Sediment sample analysis results and proposed method of sediment disposal will be submitted to the Deputy Director for review and approval prior to removing the sediments.
13. Licensee shall prepare plans to minimize soil erosion and loss of topsoil for the review and approval of the Deputy Director prior to beginning construction of the Stanislaus Power Tunnel Fish Screen or removal of the Stanislaus Afterbay Dam. The plan shall include the requirement to prepare a Storm Water Pollution Prevention Plan to address specific site mitigation measures to prevent erosion and protect water quality. The plan shall include Best Management Practices with temporary surface drainage ditches, water bars, and filter barriers along the access road to mitigate any potential erosion from rain during construction as needed.
14. Material such as fuel (gasoline/diesel), hydraulic oil, and motor oil, will be used during construction of the Stanislaus Power Tunnel Fish Screen and removal of the Stanislaus Afterbay Dam. Material Safety Data Sheets for all substances used on the job site must be on file at the job headquarters in Angels Camp and at the job site as required by the Hazard Communication Law, General Industry Safety Orders, Sec. 5194.

Hazardous waste products such as grease cartridges and oil absorbents will be placed in proper containers and transported from the job site to an authorized Hazardous Waste Collection Site.

Trucks and equipment will be refueled as required from 110-gallon capacity diesel tanks carried in the back of pickup trucks. No fuel storage tanks will be placed on the site.



Equipment hydraulic oil will be changed out to biodegradable oil for the equipment operating within the stream channel. Oil collection booms will be strategically placed in the Stanislaus River to provide additional protection in the event of an equipment fluid release.

To reduce potentially hazardous conditions and minimize the impacts from the handling of potentially hazardous materials, PG&E will include the following in its construction contract documents:

- a) The contractor(s) shall enforce strict on-site handling rules to keep construction and maintenance materials out of receiving waters and storm drains. In addition, the contractor(s) shall store all reserve fuel supplies only within the confines of a designated construction staging area, refuel equipment only within the designated construction staging area, and regularly inspect all construction equipment for leaks.
  - b) The contractor(s) shall prepare a *Health and Safety Plan*. The plan shall include measures to be taken in the event of an accidental spill.
  - c) The construction staging area shall be designed to contain contaminants such as oil, grease, and fuel products so that they do not drain towards receiving waters or storm drain inlets.
15. Within 6 months of license issuance the Licensee shall submit a spill channel management plan for the review and approval of the Deputy Director. The plan shall include measures to minimize the use of the spill channels, reduce the magnitude and duration of spills, monitor channel stability, and monitoring and reporting of water quality impacts during spill events.
  16. The Licensee shall coordinate Project operations with operations of the Beardsley/Donnells Hydroelectric Project (Project No. 2005) consistent with the Coordinated Operations Agreement among the Oakdale and South San Joaquin Irrigation Districts, Tri-Dam Power Authority, and Pacific Gas and Electric Company. Any revisions or amendments to the Coordinated Operations Agreement shall be filed with the Deputy Director. The State Water Board may modify terms and conditions in this certification, after notice and opportunity for hearing, to address project coordination reasonably necessary to achieve water quality standards and beneficial uses of water.
  17. Nothing in this certification shall be construed as State Water Board approval of the validity of any consumptive water rights, including pre-1914 claims, referenced in the Coordinated Operations Agreement or elsewhere. The State Water Board has separate authority under the Water Code to investigate and take enforcement action if necessary to prevent any unauthorized or threatened unauthorized diversions of water.
  18. Beginning as soon as reasonably feasible and no later than 6 months after license issuance, Licensee shall limit increase or decrease of regulated minimum streamflows and Daily Flows to result in a stage change of six inches or less per hour. The point of compliance shall be at the following flow measurement gages; USGS gage 11293200 (PG&E gage S-12 below Sand Bar Diversion Dam), USGS gage 11292000 (PG&E gage S-52 at Kennedy Meadows), USGS gage 11296500 (PG&E gage S-61 below Herring Creek), and USGS gage 11297200 (PG&E gage S-83 below Philadelphia Diversion Dam) or at a different location after approval of the Deputy Director. The ramping rate may be temporarily modified if required by equipment malfunction, agency requirements, emergency or law enforcement activity, or electric system emergencies beyond the control of the Licensee. Where facility modification

is required for the Licensee to provide the specified ramping rate, the Licensee shall complete such modifications as soon as reasonably practicable and no later than three years after license issuance. Prior to such required facility modifications, the Licensee shall make a good faith effort to provide the specified ramping rate within the capabilities of the existing facilities. The Licensee shall notify the Deputy Director if it is unable to meet the ramping rate prior to facility modification.

19. The Licensee shall continue to maintain and operate the Philadelphia Diversion fish screen in accordance with the functional design filed with FERC on May 3, 1993 and approved by FERC on July 30, 1993, including transporting stream sediment through the structure and the option of removing the upper screen panels in the winter from December 1 through March 15 when ice and snow conditions may exist.
20. The Licensee shall continue to maintain and operate the fish ladder located at Philadelphia Diversion Dam. The Licensee shall annually, after the peak spring flow period, inspect the fish ladder and the downstream access pool and maintain their functionality.
21. The Licensee shall pay the cost, up to a maximum of \$20,000 per year (2002 cost basis), for fish stocking in Pinecrest Lake and potentially Pinecrest Reach by California Department of Fish and Game, provided such stocking is performed.
22. This certification is contingent on compliance with all applicable requirements of the Water Quality Control Plan for the Sacramento and San Joaquin River Basins, except as may be modified by the specific conditions of the certification.
23. Notwithstanding any more specific conditions in this certification, the Project shall be operated in a manner consistent with all water quality standards and implementation plans adopted or approved pursuant to the Porter-Cologne Water Quality Control Act or section 303 of the Clean Water Act. The Licensee shall take all reasonable measures to protect the beneficial uses of water of the Middle and South Forks Stanislaus River.
24. The authorization to operate the Project pursuant to this certification is conditioned upon payment of all applicable fees for review and processing of the application for water quality certification and administering the State's water quality certification program, including but not limited to: timely payment of any annual fees or similar charges that may be imposed by future statutes or regulations for the State's reasonable costs of a program to monitor and oversee compliance with conditions of water quality certification.
25. This certification is not intended and shall not be construed to apply to issuance of any FERC license or FERC license amendment other than the FERC license specifically identified in Licensee's application for certification described above.
26. This certification does not authorize any act which results in the taking of a threatened or endangered species or any act, which is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish & G. Code §§ 2050 - 2097) or the federal Endangered Species Act (16 U.S.C. §§ 1531 - 1544). If a "take" will result from any act authorized under this certification or water rights held by the Licensee, the Licensee shall obtain authorization for the take prior to any construction or operation of the Project.

The Licensee shall be responsible for meeting all requirements of the applicable Endangered Species Act for the Project authorized under this certification.

27. In the event of any violation or threatened violation of the conditions of this certification, the violation or threatened violation shall be subject to any remedies, penalties, process or sanctions as provided for under applicable State or federal law. For the purposes of section 401(d) of the Clean Water Act, the applicability of any State law authorizing remedies, penalties, process or sanctions for the violation or threatened violation constitutes a limitation necessary to assure compliance with the water quality standards and other pertinent requirements incorporated into this certification. In response to a suspected violation of any condition of this certification, the State Water Board may require the holder of any federal permit or license subject to this certification to furnish, under penalty of perjury, any technical or monitoring reports the State Water Board deems appropriate, provided that the burden, including costs, of the reports shall bear a reasonable relationship to the need for the reports and the benefits to be obtained from the reports. In response to any violation of the conditions of this certification, the State Water Board may add to or modify the conditions of this certification as appropriate to ensure compliance.
28. Licensee must submit any change to the Spring Gap-Stanislaus Hydroelectric Project, including project operation that would have a significant or material effect on the findings, conclusions, or conditions of this certification, to the Deputy Director for prior review and written approval.
29. This certification is subject to modification upon administrative or judicial review, including review and amendment pursuant to Water Code section 13330 and California Code of Regulations, title 23, division 3, chapter 28, article 6 (commencing with § 3867).
30. The State Water Board reserves authority to modify this certification if monitoring results indicate that continued operation of the project would violate water quality objectives or impair the beneficial uses of the Middle or South Forks Stanislaus River.
31. The State Water Board may add to or modify the conditions of this certification, as appropriate, to implement any new or revised water quality standards and implementation plans adopted or approved pursuant to the Porter-Cologne Water Quality Control Act or section 303 of the Clean Water Act.
32. The State Water Board may add to or modify the conditions of this certification as appropriate to coordinate the operations of this Project and other hydrologically connected water development projects, where coordination of operations is reasonably necessary to achieve water quality standards or protect beneficial uses of water.

Project No. 2130-033

84

33. The State Water Board shall provide notice and an opportunity for hearing in exercising its authority to add or modify any of the conditions of this certification.

*ORIGINAL SIGNED BY*

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Dorothy Rice  
Executive Director

Date: September 15, 2008

**APPENDIX B**

**Filed November 30, 2005; Modified November 30, 2006, April 10, 2007,  
and October 3, 2007**

**PACIFIC SOUTHWEST REGION****USDA FOREST SERVICE****FINAL 4(e) TERMS AND CONDITIONS AND 10(a) Recommendations****Spring Gap-Stanislaus Hydroelectric Project****FERC Project No. 2130**

The Forest Service hereby submits its Final 4(e) Terms and Conditions (Conditions) and Section 10(a) recommendations, as applicable, for the Spring Gap-Stanislaus Hydroelectric Project (FERC Project No. 2130), in accordance with 18 CFR 4.34(b)(1)(i). Wording in [brackets] in these conditions indicates that the Forest Service determined that this portion of the condition was not within its jurisdiction; however the Forest Service recommends it be included in the license under Section 10(a) of the Federal Power Act.

Section 4(e) of the Federal Power Act 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. This is an independent threshold determination made by FERC, with the purpose of the reservation defined by the authorizing legislation or proclamation (see *Rainsong v. FERC*, 106 F.3d 269 (9<sup>th</sup> Cir. 1977)). The Forest Service, for its protection and utilization determination under Section 4(e) of the FPA may rely on broader purposes than those contained in the original authorizing statutes and proclamations in prescribing conditions (see *Southern California Edison v. FERC*, 116F.3d 507 (D.C. Cir. 1997)). These terms and conditions are based on those resource and management requirements 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 unit of the National Forest System or prescribing the management thereof (such as the Wilderness Act or the Wild and Scenic Rivers Act), as such laws may be amended from time to time, and as implemented by regulations and approved Land and Resource Management Plans prepared in accordance with the National Forest Management Act. Specifically, the 4(e) conditions are based on the Land and Resource Management Plans (as amended) for the Stanislaus National Forest, as approved by the Regional Forester of the Pacific Southwest Region.

Pursuant to Section 4(e) of the Federal Power Act, the Secretary of Agriculture, acting by and through the Forest Service, considers the following conditions necessary for the adequate protection and utilization of the land and resources of the Stanislaus National Forest. License articles contained in the Federal Energy Regulatory Commission's (hereinafter referred to as the Commission) Standard Form L-1 (revised October 1975) issued by Order No. 540, and dated October 31, 1975, cover general

requirements. Section II of this document includes standard conditions deemed necessary for the administration of National Forest System lands. Section III covers specific requirements for protection and utilization of National Forest System lands and shall also be included in any license issued.

### **Standard Forest Service Conditions**

#### **Condition No. 1—Settlement Agreement**

The Forest Service reserves the authority to add to, delete from, or modify the Final terms and conditions contained herein in the event that the Licensee, the Forest Service and/or other federal and state agencies enter into a settlement agreement resolving some or all of the issues raised in this ongoing license proceeding in order to provide Final terms and conditions that are consistent with the terms of any such settlement.

Forest Service and Licensee have been negotiating a draft Recreation Settlement Agreement (DRSA) relating to Forest Service facilities that are currently outside the Project boundary. The DRSA essentially contemplates rehabilitating and rebuilding certain Forest Service facilities on a cost sharing basis between Forest Service and Licensee pursuant to an implementation plan. The DRSA has been substantially negotiated, but not yet finalized by the parties. As a result, if the DRSA is not executed by the time the new FERC license is issued, then the relevant, material and agreed upon portions of the last version of the DRSA, including the scope of work, party responsibilities for performance of work, cost responsibilities and implementation schedules, will be deemed incorporated into these Final conditions so that those agreed upon portions of the DRSA remain the same and become part of the new FERC license for the Project. The incorporated DRSA portions will be of no further force or effect if the DRSA is fully executed by the Forest Service and the Licensee and filed with the Commission. Any disagreements between Forest Service and Licensee regarding the provisions of the DRSA that may be incorporated into the new FERC license under this Section 4(e) condition will be resolved pursuant to the alternative dispute resolution procedures available through FERC.

#### **Condition No. 2—Modification of 4(e) Conditions After Biological Opinion or Water Quality Certification**

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 United States Fish and Wildlife Service; or any Certification issued for this Project by the State Water Resources Control Board.

#### **Condition No. 3—Forest Service Approval of Final Design**

Before any new construction of the Project occurs on National Forest System lands, the Licensee shall obtain prior written approval of the Forest Service for all final

design plans for Project components, which the Forest Service deems as affecting or potentially affecting National Forest System resources. The Licensee shall follow the schedules and procedures for design review and approval specified in the conditions herein. As part of such written approval, the Forest Service may require adjustments to the final plans and facility locations to preclude or mitigate impacts and to insure that the Project is compatible with on-the-ground conditions. Should such necessary adjustments be deemed by the Forest Service, the Commission, or the Licensee to be a substantial change, the Licensee shall follow the procedures of Article 2 of the license. Any changes to the license made for any reason pursuant to Article 2 or Article 3 shall be made subject to any new terms and conditions of the Secretary of Agriculture made pursuant to Section 4(e) of the Federal Power Act.

#### **Condition No. 4—Approval of Changes**

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. 5—Consultation**

Each year in between March 15 and April 15, 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, 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.

When Forest Service section 4(e) conditions require the Licensee to file a plan with the Commission that is approved by the Forest Service, the Licensee shall provide the Forest Service a minimum of 60 days to review and approve the plan before filing with the Commission. Upon Commission approval, the Licensee shall implement Forest Service required and approved plans.

**Condition No. 6—Surrender of License or Transfer of Ownership**

Prior to any surrender of this license, the Licensee shall provide assurance acceptable to the Forest Service that Licensee shall restore National Forest System resources to a condition satisfactory to the Forest Service upon or after surrender of the license, as appropriate. The restoration plan shall identify the measures to be taken to restore National Forest System resources and shall include adequate financial assurances such as a bond or letter of credit, to ensure performance of the restoration measures.

In the event of any transfer of the license or sale of the Project, the Licensee shall guarantee or assure that, in a manner satisfactory to the Forest Service, the Licensee or transferee will provide for the costs of surrender and restoration. 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 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. 7—Hazardous Substances Plan**

Within one year of license issuance, the Licensee shall file with the Commission a plan approved by the Forest Service for hazardous substances storage and spill prevention and cleanup for Project facilities on or affecting National Forest System Lands. In addition, during planning and prior to any new construction or maintenance not addressed in an existing plan, the Licensee shall notify the Forest Service, and the Forest Service shall make a determination whether a plan approved by the Forest Service for oil and hazardous substances storage and spill prevention and cleanup is needed.

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) to periodically inform the Forest Service of the location of the spill cleanup equipment on National Forest System lands and of the location, type, and quantity of oil and hazardous substances stored in the Project area; (3) to inform the Forest Service immediately of the nature, time, date, location, and action taken for any spill affecting National Forest System lands and Licensee adjoining property, and (4) provide annually to the Forest Service a list of Licensee project contacts.

**Condition No. 8—Use of Explosives**

Use of explosives shall be consistent with state and local requirements.

1. The Licensee shall use only electronic detonators for blasting on National Forest System lands and Licensee adjoining property, except near high-voltage



powerlines. The Forest Service may allow specific exceptions when in the public interest.

2. In the use of explosives, the Licensee shall exercise the utmost care not to endanger life or property and shall comply with the requirements of the Forest Service. The Licensee shall contact the Forest Service prior to blasting to obtain the requirements from the Forest Service. The Licensee shall be responsible for any and all damages resulting from the use of explosives and shall adopt precautions to prevent damage to surrounding objects. The Licensee shall furnish and erect special signs to warn the public of the Licensee's blasting operations. The Licensee shall place and maintain such signs so they are clearly evident to the public during all critical periods of the blasting operations, and shall ensure that they include a warning statement to have radio transmitters turned off.
3. The Licensee shall store all explosives on National Forest System lands in a secure manner, in compliance with State and local laws and ordinances, and shall mark all such storage places "DANGEROUS—EXPLOSIVES." Where no local laws or ordinances apply, the Licensee shall provide storage that is satisfactory to the Forest Service and in general not closer than 1,000 feet from the road or from any building or camping area.
4. When using explosives on National Forest System lands, the Licensee shall adopt precautions to prevent damage to landscape features and other surrounding objects. When directed by the Forest Service, the Licensee shall leave trees within an area designated to be cleared as a protective screen for surrounding vegetation during blasting operations. The Licensee shall remove and dispose of trees so left when blasting is complete. When necessary, and at any point of special danger, the Licensee shall use suitable mats or some other approved method to smother blasts.

#### **Condition No. 9—Fire Prevention, Response, and Investigation**

Within one year of license issuance the Licensee shall file with the Commission a Fire Management and Response Plan that is approved by the Forest Service, and developed in consultation with appropriate State and local fire agencies. The plan shall set forth in detail the Licensee's responsibility for the prevention (excluding vegetation treatment as described in Condition No. 42), reporting control, and extinguishing of fires in the vicinity of the Project.

At a minimum the plan shall address the following categories:

1. Fuels Treatment/Vegetation Management: Identification of fire hazard reduction measures to prevent the escape of project-induced fires.
2. Prevention: Availability of fire access roads, community road escape routes, helispots to allow aerial firefighting assistance in the steep canyon, water drafting sites and other fire suppression strategies.

Address fire danger and public safety associated with project-induced recreation, including fire danger associated with dispersed camping, existing and proposed developed recreation sites, trails, and vehicle access.

3. Emergency response preparedness: Analyze fire prevention needs including equipment and personnel availability.
4. Reporting: Licensee shall report any project related fires to the Forest Service within 24 hours.
5. Fire control/extinguishing: Provide the Forest Service a list of the location of available fire suppression equipment and the location and availability of fire suppression personnel.

Include appropriate measures from Condition 41 and assure fire prevention measures will conform to water quality protection practices as enumerated in USDA, Forest Service, Pacific Southwest Region, Water Quality Management for National Forest System Lands in California-Best Management Practices.

#### **Investigation of Project Related Fires**

The Licensee agrees to fully cooperate with the Forest Service on all fire investigations. The Licensee shall produce upon request all material and witnesses, over which the Licensee has control, related to the fire and its investigation including:

- All investigation reports
- All witness statements
- All photographs
- All drawings
- All analysis of cause and origin
- All other, similar materials and documents regardless of how collected or maintained

The Licensee shall preserve all physical evidence, and give custody to the Forest Service of all physical evidence requested.

#### **Condition No. 10—Road Use by Government**

The United States shall have unrestricted use of any road within the project area for all purposes deemed necessary and desirable in connection with the protection, administration, management, and utilization of National Forest System lands or resources and shall have the right to extend rights and privileges of use of such road 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 to unreasonably interfere with the safety or security uses, or cause the Licensee to bear a share of the costs of maintenance greater than the Licensee's use bears to all use of the road.

**Condition No. 11—Road Use**

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, as identified in the Road Management and Maintenance Plan (refer to Condition No. 27). 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.

**Condition No. 12—Maintenance of Improvements**

The Licensee shall maintain all its improvements and premises on National Forest System lands to standards of repair, orderliness, neatness, sanitation, and safety acceptable to the Forest Service. The Licensee shall comply with all applicable Federal, State, and local laws, regulations, including but not limited to, the Federal Water Pollution Control Act, 33 U.S.C. 1251 et seq., the Resources Conservation and Recovery Act, 42 U.S.C. 6901 et seq., the Comprehensive Environmental Response, Control, and Liability Act, 42 U.S.C. 9601 et seq., and other relevant environmental laws, as well as public health and safety laws and other laws relating to the siting, construction, operation, maintenance of any facility, improvement, or equipment.

**Condition No. 13—Safety during Project Construction**

Sixty days prior to ground-disturbing activity related to new Project construction on or affecting National Forest System Lands, the Licensee shall file a Safety During Construction Plan with the Commission that is approved by the Forest Service that identifies potential hazard areas and measures necessary to protect public safety. Areas to consider include construction activities near public roads, trails and recreation area and facilities.

The Licensee shall perform daily (or on a schedule otherwise agreed to by the Forest Service in writing) inspections of Licensee's construction operations on National Forest System lands and Licensee adjoining fee title property while construction is in progress. The Licensee shall document these inspections (informal writing sufficient) and shall deliver such documentation to the Forest Service on a schedule agreed to by the Forest Service. The inspections must specifically include fire plan compliance, public safety, and environmental protection. The Licensee shall act immediately to correct any items found to need correction.

**Condition No. 14—Pesticide Use Restrictions**

Pesticides may not be used to control undesirable woody and herbaceous vegetation, aquatic plants, fish, insects, and rodents on National Forest System lands without the prior written approval of the Forest Service. The Licensee shall submit a request for approval of planned uses of pesticides. The request 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 request was submitted. In such an instance, an emergency request and approval may be made.

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. 15—Erosion Control Plan**

During planning and before any new construction or non-routine maintenance projects with the potential for causing erosion and/or stream sedimentation on or affecting National Forest System Lands (including but not limited to the planned recreation-related construction), the Licensee shall file with the Commission an Erosion Control Measures Plan that is approved by the Forest Service. The Plan shall include measures to control erosion, stream sedimentation, dust, and soil mass movement.

The plan shall be based on actual-site geological, soil, and groundwater conditions and shall include:

1. A description of the actual site conditions;
2. Detailed descriptions, design drawings, and specific topographic locations of all control measures;
3. Measures to divert runoff away from disturbed land surfaces;
4. Measures to collect and filter runoff over disturbed land surfaces, including sediment ponds at the diversion and powerhouse sites;
5. Revegetating disturbed areas in accordance with current direction on use of native plants and locality of plant and seed sources;
6. Measures to dissipate energy and prevent erosion; and,
7. A monitoring and maintenance schedule.

#### **Condition No. 16—Valid Claims and Existing Rights**

This license is subject to all valid rights and claims of third parties. The United States is not liable to the Licensee for the exercise of any such right or claim.

#### **Condition No. 17—Compliance with Regulations**

The Licensee shall comply with the regulations of the Department of Agriculture and all federal, state, county, and municipal laws, ordinances, or regulations in regards to

the area or operations covered by this license, to the extent those laws, ordinances, or regulations are not preempted by federal law.

### **Condition No. 18—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 the license.

### **Condition No. 19—Indemnification**<sup>61</sup>

The Licensee shall indemnify, defend, and hold the United States harmless for:

- any violations incurred under any laws and regulations applicable to, or
- judgments, claims, penalties, fees, or demands assessed against the United States caused by, or
- costs, damages, and expenses incurred by the United States caused by, or
- the releases or threatened release of any solid waste, hazardous substances, pollutant, contaminant, or oil in any form in the environment related to

the construction, maintenance, or operation of the project works or of the works appurtenant or accessory thereto under the license.

The Licensee's indemnification of the United States shall include any loss by personal injury, loss of life or damage to property caused by the construction, maintenance, or operation of the project works or of the works appurtenant or accessory thereto under the license. Indemnification shall include, but is not limited to, the value of resources damaged or destroyed; the costs of restoration, cleanup, or other mitigation; fire suppression or other types of abatement costs; third party claims and judgments; and all administrative, interest, and other legal costs. Upon surrender, transfer, or termination of the license, the Licensee's obligation to indemnify and hold harmless the United States shall survive for all valid claims for actions that occurred prior to such surrender, transfer or termination.

### **Condition No. 20—Surveys, Land Corners**

The Licensee shall avoid disturbance to all public land survey monuments, private property corners, and forest boundary markers. In the event that any such land markers or monuments are destroyed by an act or omission of the Licensee, in connection with the use and/or occupancy authorized by this license, depending on

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<sup>61</sup> Condition 19 revised by letter from the Forest Service to the Commission, dated November 30, 2006.

the type of monument destroyed, the Licensee shall reestablish or reference same in accordance with (1) the procedures outlined in the "Manual of Instructions for the Survey of the Public Land of the United States," (2) the specifications of the County Surveyor, or (3) the specifications of the Forest Service.

Further, the Licensee shall ensure that any such official survey records affected are amended as provided by law.

**Condition No. 21—Damage to Land, Property, and Interests of the United States**<sup>62</sup>

The Licensee has an affirmative duty to protect the land, property, and interests of the United States from damage arising from the Licensee's construction, maintenance, or operation of the project works or the works appurtenant or accessory thereto under the license. The Licensee's liability for fire and other damages to National Forest System lands shall be determined in accordance with the Federal Power Act and standard Form L-1 Articles 22 and 24.

**Condition No. 22—Risks and Hazards**

As part of the occupancy and use of the license area, the Licensee has a continuing responsibility to identify and report all hazardous conditions within the project boundary that would affect the improvements, resources, or pose a risk of injury to individuals. Licensee will abate those conditions, except those caused by third parties not related to the occupancy and use authorized by the License. Any non-emergency actions to abate such hazards on National Forest System lands shall be performed after consultation with the Forest Service. In emergency situations, the Licensee shall notify the Forest Service of its actions as soon as possible, but not more than 48 hours, after such actions have been taken. Whether or not the Forest Service is notified or provides consultation; the Licensee shall remain solely responsible for all abatement measures performed. Other hazards should be reported to the appropriate agency as soon as possible.

**Condition No. 23—Crossings**

The Licensee shall maintain existing crossings as required by the Forest Service for all roads and trails that intersect the right-of-way occupied by linear Project facilities (powerline, penstock, ditch, and pipeline).

**Condition No. 24—Access**

The Forest Service reserves the right to use or permit others to use any part of the licensed area on National Forest System lands for any purpose, provided such use

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<sup>62</sup> Condition 21 revised by letter from the Forest Service to the Commission, dated November 30, 2006.

does not interfere with the rights and privileges authorized by this license or the Federal Power Act.

**Condition No. 25—Signs**

The Licensee shall consult with the Forest Service prior to erecting signs related to safety issues on National Forest System lands covered by the license. Prior to the Licensee erecting any other signs or advertising devices on National Forest System lands covered by the license, the Licensee must obtain the approval of the Forest Service as to location, design, size, color, and message. The Licensee shall be responsible for maintaining all Licensee-erected signs to neat and presentable standards.

**Project Specific Forest Service Conditions****Condition No. 26—Fuel Treatment Plan**

Within one year of license issuance the Licensee shall file with the Commission a plan approved by the Forest Service for fuel treatment on or affecting National Forest System lands. The purpose of the plan shall be to reduce the potential for wildfires originating at Project facilities. At a minimum, the Fuel Treatment Plan shall:

1. Analyze fuel loading on Stanislaus National Forest lands that extend from the edge of each Project facility area (excluding the area around reservoir shorelines) for a distance of 300 feet in the upslope direction to determine the condition of the existing fuels.
2. Identify for each such area approved fuel treatment methods to mitigate identified hazard fuels. Such treatment methods shall be limited to thinning of small trees, removing excess brush, and reducing fuel load and continuity of surface and ladder fuels.
3. Include a map and schedule of treatments proposed by the Licensee.
4. Identify treatments with specifications for each.
5. Maintain fuel profiles within the project area commensurate with Standards and Guidelines set forth in the Stanislaus Forest Land and Resource Management Plan, as amended (USDA 1991, 2004).
6. Be responsible for the initial treatment (or the cost of mutually agreeable Forest Service treatment).
7. Be responsible for maintaining the treatment areas by repeat treatments once every eight years.

**Condition No. 27—Road Management Plan**

Within one year of license issuance the Licensee shall file with the Commission a plan approved by the Forest Service for management of all Forest Service and unclassified roads required by the Licensee to access the Project area. The Project Road Management Plan shall include:

1. Identification of all Forest Service roads and unclassified roads on National Forest System lands needed for Project access, including road numbers.
2. A map of all Forest Service roads and unclassified roads on National Forest System land used for Project access, including digital spatial data accurate to within 40 feet, identifying each road by Forest Service road number.
3. A description of each Forest Service road segment and unclassified roads on National Forest System land needed for Project access including:
  - 1) Termini
  - 2) Length
  - 3) Purpose and use
  - 4) Party responsible for maintenance
  - 5) Level of maintenance
  - 6) Structures accessed
  - 7) Location and status of gates and barricades, if any
  - 8) Ownership of road segment and underlying property
  - 9) Instrument of authorization for road use
  - 10) Assessment of road condition
4. Provisions for the Licensee to consult with the Forest Service in advance of performing any road construction, realignment, or closure involving Forest Service roads or lands.
5. The Licensee shall cooperate with Forest Service on the preparation of a condition survey and a proposed maintenance plan subject to Forest Service approval annually; beginning the first full-year after the Road Management Plan has been approved.

The Licensee shall obtain appropriate authorization (e.g. special use permit, road use permit, or maintenance agreement) in accordance with the Road Management Plan for all Project access roads that are under Forest Service jurisdiction outside the Project Boundary, including unclassified roads and Forest Service System roads needed for Project access. The term of the authorization shall be the same as the term of the license. The Licensee shall enter into the appropriate authorization mechanism with the Forest Service that will supersede the 1968 Special Use Permit. The Road Management Plan shall identify the Licensee's responsibility for road maintenance and repair costs commensurate with the Licensee's use and Project-induced use. The Road Management Plan shall specify road maintenance



and management standards that provide for traffic safety; minimize erosion and damage to natural resources and that are acceptable to the Forest Service.

Licensee shall be responsible for any new construction, realignment, closure, or other road management actions proposed by Licensee in the future, subject to Forest Service standards in effect at the time, including related studies, analyses or reviews required by Forest Service.

Snow removal on Road 4N01 and other Project roads shall be performed so as to minimize erosion during runoff periods. The Licensee shall be responsible for maintenance and replacement of aggregate that is damaged or lost due to snow plowing on the aggregate surfaced portion of Road 4N01 and other roads from which snow is plowed. The Licensee shall be responsible for a share of the cost of needed maintenance and repairs of Road 4N01 commensurate with the Licensee's use and Project induced use.

#### **Condition No. 28—Rights-of-Way**

Within six months of license issuance, the Licensee shall initiate the process to provide an easement to the Forest Service across Licensee-owned property at (1) Kennedy Meadows for public use of the Huckleberry Trail and access into the Emigrant Wilderness, and (2) Spring Gap for public use of the fishing access trail and Spring Gap foot-bridge. The Licensee shall issue an easement within two years of license issuance subject to all necessary regulatory approvals.

#### **Condition No. 29—Recreation Facilities and Administration**

Within one year of license issuance, the Licensee shall file with the Commission a Recreation Implementation Plan approved by the Forest Service. The Recreation Implementation Plan shall include detailed descriptions of the work as described below to the conceptual plan level, implementation schedules (including public notification strategy), and detailed steps for planning, design, and construction for the rehabilitation and construction work. Additionally, the Recreation Implementation Plan shall provide a mechanism for the Licensee and the Forest Service to meet periodically over the term of the license to review/modify the implementation schedule of these measures. Once approved by the Forest Service, the Licensee shall file the final Recreation Implementation Plan, including evidence of consultation, with the Commission and shall implement those measures approved by the Commission.

#### **Definitions**

The following definitions apply to this Condition.

1. Planning and Design:

**Design Narrative:** Describes the management objectives, design criteria, and constraints associated with the development. It should include: (a) management objectives; (b) design criteria, including criteria on type and color of materials and accessibility; (c) existing physical conditions; (d) any rehabilitation and new construction; (e) anticipated management problems that design may minimize; (f) site capacity, durability, and protection; (g) user safety; and (h) interpretive services.

**Concept Plan:** A preliminary graphic illustration of proposed facilities and utilities in relationship to existing site features, facilities, and utilities. It communicates proposed development ideas or alternatives. A blow-up of a typical area or camping unit, which indicates placement and orientation of facilities, may be included to clarify the concept. Aerial photography or topographic maps may be used.

**NEPA Compliance:** Conduct appropriate environmental analysis. After an environmental analysis or environmental impact statement is conducted on the concept plan and an alternative selected, the concept plan becomes the basis of the master development plan.

**Site Development Plan:** A comprehensive graphic illustration of the facilities and utilities (both existing and proposed) to be built or modified as approved by the NEPA decision. The development plan is based on an accurate survey, usually drawn to a scale ranging from 1" = 20' to 1" = 100', with appropriate contour information, and may also include descriptions or lists of features.

The plan must be approved before construction proposals are prepared. The plan must be consistent with the concept plan approved by the NEPA decision or revised through the NEPA process.

**Construction Plans:** Professionally prepared engineering, architectural, or landscape architectural plans and specifications for buildings, utilities, roads, grading, plantings, and related improvements. After review, construction plans must be approved by the appropriate line officer after review.

## 2. Maintenance

Maintenance includes keeping fixed assets in an acceptable condition, including preventive maintenance, repairs, replacement of parts and structural components. Maintenance includes work needed to meet laws, regulations, codes, and other legal direction (such as compliance with ADA) as long as the original intent or purpose of the fixed asset is not changed. Maintenance excludes activities aimed at expanding the capacity of an asset or otherwise upgrading it to serve needs different from, or significantly greater than those originally intended. Specific maintenance definitions include:

**Operational Maintenance:** Maintenance or reconditioning that neither materially adds to the value of the property nor appreciably prolongs its life. The work serves

only to keep the facility in an ordinary, efficient operation condition. From an accounting or tax perspective, it is work that may be expensed. Examples include interior painting, repair of broken windows, light bulb replacement, cleaning, unplugging drains, preventive maintenance, greasing, servicing, inspecting, oiling adjusting, and tightening, aligning, sweeping, and general snow removal.

**Heavy Maintenance:** Maintenance or reconditioning that arrests deterioration and appreciably prolongs the life of the property. From an accounting standpoint, the expenditures may be capitalized. Examples include installing a new roof, new floor, or new siding, replacing electrical wiring or heating systems, repairing or replacing pipes, pumps and motors, repairing or maintaining government property threatened or damaged by heavy snow or ice, repairing or maintaining the paths, lands, walks, or walls adjacent to other government-owned structures, and performing exterior painting or refinishing.

**Reconditioning:** Restoring a facility to its original condition or to meet current national standards, such as the ADA, accessibility guidelines or Uniform Building Code. Reconditioning does not include construction of new facilities (i.e. a capital improvement).

### 3. Capital Improvement

The construction, installation, or assembly of a new fixed asset, or the significant alteration, expansion, or extension of an existing fixed asset to accommodate a change of purpose.

### **Rehabilitate and Improve Pinecrest Day Use Facilities**

The scope of work consists of rehabilitation and improvement of the existing Pinecrest Day Use Area (Items 1-4), the Pinecrest National Recreation Trail (Item 5), a new East Shore Day Use Area (Item 6) and completion of improvements for the Amphitheater (Item 7). These facilities (Items 1-7) shall be incorporated into the FERC Project boundary when the new license is issued. Any additional Day Use Parking Lots/areas (Item 8) agreed to by Licensee and Forest Service as a result of the Traffic/Circulation/Parking Plan shall be incorporated into the FERC Project boundary, if necessary, after rehabilitation work or new improvement to such day use parking areas has been completed. Licensee shall submit to FERC for approval, with documentation of Forest Service's approval, an exhibit drawing within one year of completing work for Item 8 to incorporate these facilities into FERC Project Boundary.

#### 1. Boat Ramp

Resurface (asphalt concrete) the roadway from the top of the existing boat launch (where it connects with the access road) to the turnaround located at the head of the launch ramp. Rehabilitate the existing ramp. Remove courtesy dock and replace with ADA compliant courtesy dock. Install directional signs, barriers and

an entry/boating restriction sign. Install one wildlife resistant trash and recycle bin with pad and replace one water spigot. Upgrade fish cleaning station to meet ADA standards. Remove the existing restroom and changing room and install one new eight-unit unisex flush restroom with two outdoor unheated showerheads. Replace water and sewer lines within the boat ramp area.

## 2. Beaches and Picnic Area

Install visitor information kiosks and bulletin/information boards. Remove existing buildings (toilet facilities), barriers and day use site components. Install new picnic tables (including accessible and group style) with group-size cooking grills and single-size cooking grills. Install remaining benches along paths (to ADA standards). Remove one existing restroom at Beach 2 and 3 and install one new six-unit unisex flush restroom with 2 outdoor unheated showerheads. Replace water spigots. Install new six-unit unisex flush restroom (new construction) with two outdoor unheated showerheads at Beach 1. Replace water and sewer lines within the Beach 1, 2 and 3 areas. Establish and maintain a beach sand cushion above high-water level (5617.5) on the three beaches. Remove rocks (size and location to be determined in Recreation Implementation Plan) below the high-water line. Remove the trees separating the three beach areas below high water line. Grade and re-contour the tree removal areas for public safety, including stump removal (remove old existing stumps). Should negative environmental or operational impacts be determined, the Licensee shall consult with Forest Service and submit to the Commission for approval any modifications or changes.

## 3. Day Use/Boat Trailer Parking

Grade and pave (asphalt concrete) a new boat trailer parking area (the specific location shall be determined in the Traffic/Circulation/Parking Plan as described in Sub-Plan 2, below). Grade and pave (asphalt concrete) the existing marina parking area (also used for day use parking) near Beach 1. Install new concrete paths that meet ADA standards. Resurface (asphalt concrete) the existing parking area across Pinecrest Road from Beach 1. Expand this paved parking area to include the current native surfaced area used for boat trailer parking. Expand the intersection of Rustic Avenue at Pinecrest Road for an RV turnaround and drop-off location. Resurface (asphalt concrete) the parking spaces adjacent to Pinecrest Road. Install entry and directional signs and barriers to manage parking and traffic. The Traffic/Circulation/Parking Plan shall determine the final design. The Licensee may in consultation with the Forest Service, at Licensee's option, collect day use parking fees to help defray Licensee's operations, maintenance and capital costs.

## 4. Fishing Pier Area (south end of the day use area)

Remove existing building, barriers and day use site components. Install information/bulletin board. Install picnic tables (including accessible ones and group use), and cooking grills. Install new paths that meet ADA standards with

seating. Rehabilitate the fishing pier and landscape the small-unpaved area in the middle of the pier. Resurface (asphalt concrete) the fishing pier parking spaces adjacent to Pinecrest Road. Install walkway fences to manage foot traffic. Install a fish cleaning station. Replace water spigots. Install trash and recycle bins with pads. Remove one restroom and install one new six-unit unisex flush restroom with two unheated outdoor showerheads. Replace water and sewer lines within the Fishing Pier area.

5. Pinecrest National Recreation Trail

Rehabilitate the 4-mile loop foot-trail around Pinecrest Lake. Install waterbars, repair tread, clear vegetation for the trail way, and install directional signs. Close and restore user-created trails. Install bulletin/information signs at each end of the trail (near the marina and the fishing pier).

6. East Shore Day Use Area

Construct two to three picnic sites, a new two-unit vault toilet and a small courtesy dock. This facility shall be located near the trailhead to Cleo's Bath at the east shore of Lake Pinecrest.

7. Amphitheater

Complete additional improvements not currently funded by the existing Forest Service Capital Improvement Project to complete ADA and rehabilitation upgrades at the Amphitheater facility. Install entry, directional and informational signs. Install walkway fences to manage foot traffic. Remove one restroom and install one new six-unit unisex flush restroom with two outdoor unheated showerheads. Replace water spigots. Install wildlife-resistant trash and recycle bins with pads. Replace water and sewer lines within the amphitheater area.

8. Construction of Possible Additional Day Use Parking Lots/Areas

Construction of possible Additional Day Use Parking Lots/areas as a result of the Traffic/Circulation/Parking Plan agreed to by Licensee and Forest Service.

**Design and Construction of Pinecrest Day Use Facilities**

The Licensee shall be responsible for performing design and construction of the rehabilitation and improvements unless the Licensee and Forest Service agree otherwise. The Licensee shall not be liable for a failure to perform or for delay in performance due to any cause reasonably beyond its control. This may include, but is not limited to, natural events, labor or civil disruption, or breakdown or failure of Project works. The Licensee shall notify the Forest Service within 21 days after becoming aware of any event that so affects performance. The Licensee shall make all reasonable efforts to promptly resume performance.

### **Annual Maintenance and Operation of Pinecrest Day Use Facilities**

The Licensee shall not be responsible for the performance of annual maintenance and operation of the Pinecrest Day Use area.

### **Replacement of Pinecrest Day Use Facilities**

The Licensee shall be responsible for replacement of recreation facilities due to Acts of God and End of Service Life.

### **Ownership of Pinecrest Day Use Facilities**

The Forest Service shall own the facilities and improvements.

### **Funding of Pinecrest Day Use Facilities**

The Licensee shall be responsible for funding the planning and design, capital improvements, reconditioning, and year-round operation and maintenance (including both operational and heavy maintenance) of these facilities by the Forest Service. Any new fee collections or contributions received by the Forest Service that contribute to operation and maintenance of facilities in the Day Use Area will be credited to the Licensees annual O&M contribution. Collections from permitted activities within the Project Boundary that are invested into heavy maintenance will be credited against the Licensees responsibility to perform that work.

### **Schedule for Rehabilitation and Improvement of Pinecrest Day Use Facilities**

Rehabilitation and improvement of the Pinecrest Day Use Facilities shall be completed in accordance with the following schedule. The year completed is the number of years after the license issuance date. The construction schedule shall be detailed in the Recreation Implementation Plan. The construction schedule for specific sites shall be determined by the Licensee considering methods to reduce impacts to the public's use of the facilities, construction sequence, efficiencies and necessity for closure of individual sites.

<b>Facility</b>	<b>Year Completed</b>
Amphitheater	5 <sup>1</sup>
Beach Sand/tree removal	2
East shore picnic/restroom	3
Boat Ramp including parking	5
Pinecrest Day Use Area: parking, beaches, fish pier areas	5
Pinecrest National Recreation Trail	5

<sup>1</sup>Revised by the Forest Service via letter to the Commission dated April 9, 2007.

### **Prepare and Implement Recreation Sub-Plans**

In addition to the overall Recreation Implementation Plan, the Licensee shall prepare each of the following sub-plans in support of the Recreation Implementation Plan.

#### **1. Visitor Education and Information Plan**

The Licensee shall develop and implement a visitor education and information plan. Elements of the plan include: a) developing and printing information for dissemination at points of visitor contact, b) funding for printed materials, c) schedule for updating information, and d) funding contribution to Forest Service interpretive programs, and participation and implementation of portions of the plan.

#### **2. Traffic/Circulation/Parking Plan**

The Licensee shall develop a Traffic/Circulation/Parking Plan for pedestrian and vehicular movement and parking for the public recreation areas of Pinecrest meeting mutual agreement to Forest Service and Licensee. The plan shall include: a) modifications to the paths of travel that would reduce congestion at Pinecrest Recreation Area, improve visitor safety and minimize resource damage, b) improvements and/or additional parking facilities or operational procedures for day use access, c) implementation responsibilities and an implementation schedule.

#### **3. Shoreline Management Plan**

The Shoreline Management Plan shall include the management of the reservoir shoreline. This plan will address the privately owned boat docks and mooring balls, and include zoning of certain sections of the shoreline for swimming, fishing and shoreline boat access.

#### **4. Schedule For Development of Sub-Plans**

Once approved by the Forest Service, the Licensee shall file these plans by the date listed below.

<b>Plan</b>	<b>Completion Date</b>
Information/Education Plan	2
Traffic/Circulation/Parking Plan	1
Shoreline Management Plan	2

**Relief Reservoir**

The Licensee will be responsible for funding campsite and trail rehabilitation; and annual campsite and trail maintenance within the Project Boundary at Relief Reservoir.

**Funding Contribution for Operations, Operational Maintenance, Visitor Contact and Patrols**

*Beginning the calendar year of licensee issuance*, the Licensee shall contribute up to \$206,257 (2005 dollar cost basis; costs to be annually escalated based on the U.S. Gross Domestic Product—Implicit Price Deflator) funding annually for operations and operational maintenance, visitor information/interpretive services and patrol for the facilities described in this condition, including Level 4 Law Enforcement Level 2 Law Enforcement Officer to conduct boat patrols on Pinecrest Reservoir activities related to the Project. *The first year contribution will be pro-rated based on operations and maintenance work remaining in the calendar year.* Licensee shall enter into a collection agreement with the Forest Service to provide up to this level of funding. The Licensee shall enter into a collection agreement with Forest Service to provide 50% funding for the purchase of a boat for reservoir patrol use up to a one-time cost of \$6,000 to be provided within one year of license issuance.<sup>63</sup>

**Spring Gap Foot-Bridge**

The Licensee shall be responsible for maintenance of the Spring Gap Foot-Bridge to allow fishing access to the Middle Fork Stanislaus River. The Licensee shall grant an easement for public access through PG&E lands. (See Condition No. 28)

**Condition No. 30—Recreation Streamflow Information**

The Licensee shall, beginning as soon as reasonably feasible and no later than one year after license issuance, annually make recreation streamflow information available to the public as follows. Unless otherwise noted, the flow information shall be available to the public via toll-free phone and Internet, both of which may be accomplished through a third party. The flow information protocols may be modified upon mutual agreement of the Licensee, responsive stakeholders and approval by the Commission.

1. From May 1 through October 31, provide the hourly average streamflow for the Middle Fork Stanislaus River at Kennedy Meadows (Dardanelles and Donnells Runs), Middle Fork Stanislaus River immediately below Sand Bar Diversion Dam

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<sup>63</sup> (Portions in ***bold italics*** were revised by letter from the Forest Service to the Commission, dated September 27, 2007.)



(Sand Bar and Mt. Knight Runs), main stem Stanislaus River immediately below Stanislaus Powerhouse, South Fork Stanislaus River below Herring Creek (Strawberry Run), and South Fork Stanislaus River immediately below Philadelphia Diversion Dam (lower Strawberry Run). The flow information may be measured, calculated or a combination of the two. The flow information shall be posted at 9 AM, Noon and 4 PM daily for the current day and the past 7 days. Streamflows may be rounded up to the nearest 50 cfs, and all plots and tables showing this data shall be labeled “These provisional data have not been reviewed or edited and may be subject to significant change”.

2. By April 10, a preliminary forecast of the water year type and the initiation date and duration of anticipated spill at Relief, Beardsley and Pinecrest Dams. The information shall be updated by May 10, and shall be updated weekly thereafter through the duration of the spill period.
3. The Licensee shall install and maintain one simple staff gage/depth indicator at each of the following locations: Middle Fork Stanislaus River at Kennedy Meadows (Dardanelles and Donnell's Runs), Middle Fork Stanislaus River at Sand Bar Diversion Dam (Sand Bar and Mt. Knight Runs), main stem Stanislaus River at Stanislaus Powerhouse, South Fork Stanislaus River below Herring Creek (Strawberry Run), and South Fork Stanislaus River below Philadelphia Diversion Dam (lower Strawberry Run). The Licensee shall make a good faith attempt to locate the staff gages/depth indicators near whitewater boating put-in locations, and, if possible, angling access points, so they are easily accessible for public reference. The Licensee shall provide a means at each staff gage/depth indicator to reasonably correlate staff gage/depth indicator readings to cfs.

### **Condition No. 31—Heritage Resources**

Within one year of license issuance, the Licensee shall complete a Heritage Resources Management Plan (HRMP) that is approved by the Forest Service and file the HRMP with the Commission. The HRMP will be incorporated into the Programmatic Agreement by reference. The HRMP, as appropriate, shall accurately define the area of potential effects, including effects of implementing Section 4(e) conditions, and take into account project effects on National Register properties, Native American traditional cultural values, and Project impacts to archaeological properties on National Forest System lands. The HRMP shall also provide measures to mitigate the identified impacts, a monitoring program, and management protocols for the ongoing protection of archaeological properties.

If, prior to or during ground-disturbing activities or as a result of project operations, items of potential cultural, historical, archeological, or paleontological value are reported or discovered, or a known deposit of such items is disturbed on National Forest System lands and Licensee adjoining fee title property, the Licensee shall immediately cease work in the area so affected. The Licensee shall then notify the

Forest Service and shall not resume work on ground-disturbing activity until it receives written approval from the Forest Service.

If it deems it necessary, the Forest Service may require the Licensee to perform recovery, excavation, and preservation of the site and its artifacts at the Licensee's expense through provisions of an Archaeological Resources Protection Act permit issued by the Forest Service.

### **Condition No. 32—Ramping Rate**

The Licensee shall, beginning as soon as reasonably feasible and no later than six (6) months after license issuance, increase or decrease regulated minimum streamflows and Daily Flows at a stream stage change rate of six inches or less per hour in the affected stream reach, measured at the compliance point specified for minimum streamflows and Daily Flows [USGS gage 11293200 (PG&E gage S-12 below Sand Bar Diversion Dam), USGS gage 11292000 (PG&E gage S-52 at Kennedy Meadows), USGS gage 11296500 (PG&E gage S-61 below Herring Creek), and USGS gage 11297200 (PG&E gage S-83 below Philadelphia Diversion Dam)] or at a different location if more representative of the stream channel configuration. The ramping rate may be temporarily modified if required by equipment malfunction, agency requirements, emergency or law enforcement activity, or electric system emergencies beyond the control of the Licensee. Where facility modification is required for the Licensee to provide the specified ramping rate, the Licensee shall complete such modifications as soon as reasonably practicable and no later than three (3) years after license issuance. Prior to such required facility modifications, the Licensee shall make a good faith effort to provide the specified ramping rate within the capabilities of the existing facilities.

### **Condition No. 33—Water Year Types**

The Licensee shall, each year in each of the months of February through May, determine water-year type based on the California Department of Water Resource's (DWR) forecast for annual unimpaired inflow into New Melones Reservoir (as set forth in DWR's Bulletin 120 entitled Water Conditions in California). The Licensee shall use this determination in implementing articles and conditions of the license that are dependent on water-year type. In each of February, March and April, the water-year type shall be based on DWR's forecast for the month and shall apply from the 10<sup>th</sup> day of the month through the 9th day of the next month. From May 10 through February 9 of the following calendar year, the water-year type shall be based on DWR's May 1 forecast. The Licensee shall maintain a five-year record of its water-year type determinations, and shall provide this record to the Commission annually.

A Normal water year is defined as one in which DWR's forecast is for more than the 25th percent exceedence value but less than the 75th percent exceedence value of DWR's historic May 1 forecasts of runoff into Melones Reservoir for each water year from 1946 through 2002. The values for each water year type are in the table below.

Water Year Type	DWR Forecast Annual Unimpaired Inflow to New Melones Reservoir (acre-feet)
Critically Dry	Less than or equal to 350,000
Dry	Greater than 350,000 and less than or equal to 676,000
Normal	Greater than 676,000 and less than 1,585,000
Normal-Dry	Greater than 676,000 and less than 1,050,000
Normal-Wet	Greater than or equal to 1,050,000 and less than 1,585,000
Wet	Greater than or equal to 1,585,000

### **Condition No. 34—Stream Flow and Reservoir Drawdown**

#### **Middle Fork Stanislaus River**

##### **Drawdown of Relief Reservoir and Streamflows in Relief Reach**

The Licensee shall each year, beginning the first full calendar year after license issuance, annually develop a “best fit” drawdown curve for Relief Reservoir based on that year’s hydrological conditions. The drawdown curve shall be designed to meet the specified Relief Reach minimum and maximum streamflow requirements for the water year type, and achieve the Operational Objectives specified below. Relief Reach is defined as the 15.8 mile-long reach of Summit Creek and the Middle Fork Stanislaus River from Relief Dam to Donnell’s Reservoir.

Operational Objectives for Relief Reservoir and Streamflows in Relief Reach:

- Streamflow in the Relief Reach, as measured at Kennedy Meadows, mimics the shape of the unimpaired hydrograph, with peak flows in late spring, declining flows from the spring peak until October (except for increases due to natural events), and relatively uniform flows from November through March;
- The transition from spill flows to regulated flows is smooth, without significant decreases and increases in flows other than from natural events, achieving a rate of decline and a range of fluctuation that are within the natural range of variability of the unimpaired hydrograph;
- Streamflow fluctuation in response to natural events, such as storms and variation in rate of snowmelt, is allowed;
- The rate and magnitude of changes in regulated streamflows is gradual and within the natural range of variability of the unimpaired hydrograph for the time of year;
- Relief Reservoir is able to annually fill and be drawn down to minimum pool;
- The water stored in Relief Reservoir is adequate to meet the specified minimum streamflow requirements;
- Avoidable spill at Donnell’s Reservoir is minimized; and

- Relief Reservoir operation is responsive to annual hydrological conditions. The Licensee shall develop its proposed Relief Reservoir drawdown curve and estimated Relief Reach streamflow regime and provide it, along with the prior year's Kennedy Meadows flow gage daily data and Relief Reservoir water surface elevations to the Forest Service, SWRCB, CDFG and others who request such information no later than April 15 of each year.

The Licensee shall operate Relief Reservoir in conformance with the minimum and maximum streamflow requirements shown in the table below, as may be modified by an approved alternate streamflow regime, and to achieve the specified Operational Objectives. Additionally, the Licensee shall maintain a year-round streamflow in Summit Creek between Relief Dam and Kennedy Creek of at least 5 cfs, and shall maintain a minimum pool in Relief Reservoir of at least 200 acre-feet. The Licensee shall, within one year of license issuance, develop and file with the Commission for approval, a plan for monitoring compliance with the 5 cfs requirement.

If the Licensee anticipates at any time that it cannot meet the minimum and/or maximum streamflow requirements (such as due to hydrological conditions or need to conduct studies) it shall notify the Forest Service, SWRCB, CDFG and others who request such notification, labeling the notification "Compliance Item, Immediate Attention Requested" and provide an alternative streamflow regime and drawdown curve for the year that meets the specified minimum and maximum streamflow requirements and achieves the specified Operational Objectives to the greatest extent feasible. The notified parties shall be provided 30 days to review and respond to the Licensee's alternate streamflow regime. If the notified agencies approve the alternate streamflow regime proposed by the Licensee, the Licensee shall implement the alternate streamflow regime. If the notified agencies do not approve the alternate streamflow regime proposed by the Licensee, but propose an alternate streamflow regime that meets the specified minimum and maximum streamflow requirements and achieves the specified Operational Objectives to the greatest extent feasible, the Licensee shall implement the alternate streamflow regime proposed by the responsive agencies, provided the agencies' alternative is consistent with actual physical conditions (such as equipment capability and hydrological conditions). If the notified agencies within 30 days of notification do not respond, do not propose an alternate streamflow regime, or the alternate streamflow regime proposed by the agencies cannot be implemented due to actual physical conditions, or the Licensee receives conflicting alternate proposals from the responsive agencies that the Licensee cannot resolve through a good faith effort, the Licensee shall operate according to its proposed alternate streamflow regime, upon approval of the Commission.

The specified minimum streamflows are the minimum mean flow over a continuous 24-hour period. Except as provided below for the months of November through March, instantaneous streamflow may, on an infrequent basis, deviate

below the specified minimum streamflow up to 10 percent. However, the Licensee shall make a good faith effort to meet the specified minimum streamflows at all times.

The specified maximum streamflows are the instantaneous maximums for the month. The Licensee shall make a good faith effort to maintain actual streamflows within the specified maximums. However, the Licensee is not required to adjust the Relief Reservoir outlet gate in response to short-term (not greater than approximately one week in length) natural events such as storms, variations in rate of snow melt and accretion flows. In complying with the specified maximum streamflows, the Licensee shall attempt to under-run the maximum streamflows specified for August and September to the greatest extent feasible, consistent with actual hydrological conditions.

The specified minimum and maximum streamflows for November through March are target streamflows. By November of each year, the Licensee shall forecast inflow to Relief Reservoir for the period December through March, and set the Relief Dam outlet gate at an opening to achieve the streamflow in the approved Relief Reservoir drawdown plan. The Licensee shall monitor Relief Reservoir water surface elevation with at least weekly readings December through March to confirm that the outlet gate is at an appropriate setting to achieve the target streamflow range. Upon a determination that the outlet gate setting needs adjustment to achieve the target streamflow range, the Licensee shall make a good faith effort to adjust the outlet flow gate subject to personnel safety and access limitations.

The requirements of this measure are subject to temporary modifications if required by equipment malfunction, agency requirements, emergency or law enforcement activity, or critical electrical system emergencies beyond the control of the Licensee. In the event of such temporary modifications, the Licensee shall promptly notify the Forest Service, the Commission, SWRCB, CDFG and others requesting such notification, labeling the notification "Compliance Item, Immediate Attention Required". The streamflow requirements are also subject to modification, upon approval by the Forest Service, [SWRCB] and the Commission based on the results of studies to improve streambank stability and rejuvenation of riparian vegetation in the Relief Reach between Kennedy Meadows and Eureka Valley.

In Critically Dry water years, the Licensee may propose modifications to the specified minimum or maximum streamflows. If such modifications are proposed, the Licensee shall consult with the Forest Service SWRCB, CDFG, and others who request consultation as to the justification for such modifications. This consultation shall be combined with Critically Dry water year consultation for other Project-affected reaches, if applicable. The Licensee shall maintain the

specified minimum and maximum streamflows until any such modifications are approved by the responsive agencies and the Commission.

Where facility modification is required to implement the Relief Reservoir drawdown curve, the Licensee shall complete such modifications as soon as reasonably practicable and no later than three years after license issuance. Prior to completion of such required facility modifications, the Licensee shall make a good faith effort to comply with this article within the capabilities of the existing facilities.

#### **Minimum and Maximum Streamflows for the Relief Reach (cfs)<sup>1, 2</sup>**

Month	Water Year Type					
	Normal		Dry and Critically Dry		Wet	
	Min	Max	Min	Max	Min	Max
October 1-31	30	50	20	40	40	125
November 1-30	30	60	20	50	40	125
December 1-31	30	60	20	50	40	125
January 1-February 9	30	60	20	50	40	125
February 10-March 9	30	60	20	50	40	125
March 10-April 9	30	60	25	50	40	125
April 10-May 9	60	NA	45	NA	70	NA
May 10-May 31	100	NA	80	NA	150	NA
June 1-30	150	NA	100	NA	250	NA
July 1-31	90	NA	40	NA	200	NA
August 1-31	40	200	20	40	100	300
September 1-30	30	120	20	40	60	200

<sup>1</sup> The specified maximum and minimum streamflows are made up of flow releases from Relief Reservoir, unregulated accretion flows from Kennedy Creek and other sources, as measured at USGS gage 11292000 (PG&E gage S-52) in Kennedy Meadows.

<sup>2</sup> NA: Not Applicable

#### **Minimum Streamflows in Sand Bar Dam Reach**

The Licensee shall, beginning no more than six months after license issuance, maintain minimum streamflows made up of minimum Daily Flows and minimum Supplemental Flows in the Sand Bar Dam Reach in Normal, Dry, Critically Dry and Wet water years as specified below. The Sand Bar Dam Reach is the 12.3 mile-long reach of the Middle Fork Stanislaus River extending from Sand Bar Diversion Dam to the confluence of the Middle Fork Stanislaus River with the North Fork Stanislaus River. Minimum Daily Flows and minimum Supplemental Flows may consist of any combination of spill, accretion and regulated flows.

### **Minimum Daily Flows**

In order to assure an adequate year-round biological baseline, the Licensee shall maintain in the Sand Bar Dam Reach the minimum Daily Flows specified in the following table. The specified minimum Daily Flows is the minimum mean flow over a continuous 24-hour period. Instantaneous flow may, on an infrequent basis, deviate below the specified minimum Daily Flow by up to 10 percent or 8 cfs, whichever is less. However, the Licensee shall make a good faith effort to meet the specified minimum Daily Flows at all times.

#### **Minimum Daily Flow schedule for the Sand Bar Dam Reach (cfs) <sup>1, 2, 3</sup>**

Month	Water Year Type		
	Normal	Dry and Critically Dry	Wet
October 1-31	80	50	80
November 1-30	70	50	70
December 1-31	70	50	70
January 1 - February 9	70	50	70
February 10 - March 9	70	50	70
March 10 - April 9	80	50	80
April 10 - May 9	80	50	80
May 10 - May 31	80	50	80
June 1 - 30	80	50	80
July 1- 31	80	60	100
August 1 - 31	80	60	100
September 1 - 30	80	50	100

<sup>1</sup> The compliance location for the minimum Daily Flows shall be USGS gage 11293200 (PG&E gage S-12).

<sup>2</sup> The minimum required Daily Flow is the amount indicated or, if the inflow to Sand Bar Diversion Dam is less than the amount indicated due to reasons outside the Licensee's control, the inflow to Sand Bar Diversion Dam.

<sup>3</sup> Minimum Supplemental Flows that are additive to the specified minimum Daily Flows shall be provided during a continuous thirteen-week period (seven weeks in Critically Dry years) between March 1 and July 31.

### **Minimum Supplemental Flows**

In order to assure an adequate spring peak flow event occurs each year, the Licensee shall, in addition to the minimum Daily Flows specified above, maintain the minimum Supplemental Flows specified in the following table, provided such flows are available to the Licensee at Sand Bar Diversion Dam. The specified minimum Supplemental Flow for a week is the average flow for the week, with instantaneous flows at least equal to the specified minimum Supplemental Flow for the lower of the two adjoining weeks.

**Minimum Supplemental Flow schedule for the Sand Bar Dam Reach (cfs)<sup>1,2,3,4</sup>**

Week	Water Year Type			
	Normal	Dry	Critically Dry	Wet
1	5	5	15	5
2	10	10	75	10
3	25	25	250	25
4	35	35	150	35
5	75	75	100	75
6	140	140	40	140
7	220	220	20	220
8	400	400	N/A	400
9	180	180	N/A	180
10	110	110	N/A	110
11	65	65	N/A	65
12	25	25	N/A	25
13	10	10	N/A	10

<sup>1</sup> The compliance location for the minimum Supplemental Flows shall be USGS gage 11293200 (PG&E gage S-12) below Sand Bar Diversion Dam for the first 200 cfs. Flows in excess of 200 cfs shall be calculated by summing the flow contributions from Beardsley Afterbay Dam (gage S-89), Sand Bar Powerhouse and Spring-Gap Powerhouse and subtracting the flow diverted at Sand Bar Diversion Dam. If PG&E gage S-12 is upgraded to measure flows in excess of 200 cfs, it shall be used for flow measurement up to its upgraded rating.

<sup>2</sup> The minimum required Supplemental Flow is the amount indicated or, if the inflow to Sand Bar Diversion Dam is less than the amount indicated due to reasons outside the Licensee's control, the inflow to Sand Bar Diversion Dam.

<sup>3</sup> The minimum Supplemental Flows are additive to the specified minimum Daily Flows.

<sup>4</sup> NA: Not Applicable

The Supplemental Flow period shall be 13 continuous weeks in length (seven weeks in Critically Dry water years). For years in which Beardsley Reservoir is forecast to spill, the Licensee may initiate the Supplemental Flow period any time between March 1 and May 1 to best coincide with the period of spill (Date Trigger). For years in which Beardsley Reservoir is forecast not to spill, the Licensee shall initiate the Supplemental Flow period at a time between March 1 and May 1 so that the peak Supplemental Flow will occur approximately two weeks after the then forecast peak inflow to Donnell's Reservoir (Peak Flow Trigger).

The Licensee shall consult with the Forest Service, SWRCB, CDFG, FWS and other interested parties, to develop a recommendation for a Water Temperature Trigger to function in combination with the Date and Peak Flow Triggers described above for initiating Supplemental Flows in years that Beardsley Dam is forecast not to spill. The Water Temperature Trigger shall not apply for years in which Beardsley Reservoir is forecast to spill. The Water Temperature Trigger



shall be developed based on available information. The Licensee shall, within one year of license issuance, file with the Commission a Water Temperature Trigger recommendation, including evidence of consultation, and shall implement the Water Temperature Trigger approved by the Forest Service, [SWRCB,] and the Commission. Use of the Water Temperature Trigger shall be based on water temperatures measured using a continuous water temperature recorder installed and maintained by the Licensee at Sand Bar Diversion Dam.

The Licensee may meet the Supplemental Flow requirement with flow magnitudes in excess of those specified; however, the rate of decline in flow shall be no steeper than the specified decline for Supplemental Flows any time actual streamflow immediately below Sand Bar Diversion Dam is less than the peak magnitude specified for the Supplemental Flow. Exceptions to the decline rate are allowed when natural events, such as storms and variation in rate of snowmelt cause short duration (not greater than approximately one week in length) flow fluctuations that exceed the flows specified for the declining limb of the Supplemental Flow. The Licensee shall make downward adjustments in Supplemental Flows in approximately equal steps to achieve a smooth decline.

The requirements of this measure may be temporarily modified if required by equipment malfunction, emergency, agency requirements, or law enforcement activity, or electric system emergencies beyond the control of the Licensee. In the event of such temporary modifications, the Licensee shall promptly notify the Forest Service, the Commission, SWRCB, CDFG, FWS and others that request such notification, labeling the notification "Compliance Item, Immediate Attention Required".

In Critically Dry water years, the Licensee may propose modifications to the specified minimum Supplemental Flows down, or up to a maximum of the Dry water year Supplemental Flows. If such modifications are proposed, the Licensee shall consult with the Forest Service, SWRCB, CDFG, and others who request consultation as to the justification for such modifications. This consultation shall be combined with Critically Dry water year consultation for other Project-affected reaches, if applicable. The Licensee shall maintain Supplemental Flows until any such modifications are approved by the responsive agencies and the Commission. In addition, after consultation and approval by Forest Service [and SWRCB], the Licensee may reduce or eliminate Supplemental Flows in Critical Dry water years in response to compelling socio-economic considerations.

Additionally, in Critically Dry water years, the Licensee may propose modifications to the specified minimum Daily Flows. If such modifications are proposed, the Licensee shall consult with Forest Service, SWRCB, CDFG and others who request consultation as to the justification for such modifications. This consultation shall be combined with Critically Dry water year consultation for other Project-affected reaches, if applicable. The Licensee shall maintain the

specified minimum Daily Flows until any such modifications are approved by the responsive agencies and the Commission.

Where facility modification is required to implement the specified minimum Daily Flows or Supplemental Flows, the Licensee shall complete such modifications as soon as reasonably practicable and no later than three years after license issuance. Prior to completion of such required facility modifications, the Licensee shall make a good faith effort to provide the specified minimum Daily Flows and Supplemental Flows within the capabilities of the existing facilities.

### **South Fork Stanislaus River**

#### **Drawdown of Pinecrest Lake and Streamflows in Pinecrest and Philadelphia Reaches**

The Licensee shall each year, beginning the first full calendar year after license issuance, annually develop a “best fit” drawdown curve for Pinecrest Lake based on that year’s forecast hydrological conditions. The drawdown curve shall be designed to meet the specified Pinecrest Reach and Philadelphia Reach minimum streamflow requirements for the water year type, and achieve the Consumptive Water Supply, Ecological, Recreational and Power Generation Operational Objectives specified below. The Pinecrest Reach is the 3.9 mile-long section of South Fork Stanislaus River (SFSR) from Strawberry Dam to Philadelphia Diversion. The Philadelphia Reach is the 8.5 mile-long section of SFSR from Philadelphia Diversion to Lyons Reservoir.

#### **Consumptive Water Supply Operational Objectives:**

- Consumptive Water supply deliveries are managed consistent with the specified Ecological and Recreation Operational Objectives to the greatest extent feasible; and
- Avoidable spill at Lyons Reservoir is minimized.

#### **Ecological Operational Objectives (in order of priority):**

- Streamflows in the Philadelphia Reach from the annual snowmelt spill period at Strawberry Dam through August are steady, with only gradual increases and decreases in flows (target maximum change of approximately 10 cfs per week);
- Streamflows in the Philadelphia Reach from September 1 to the beginning of the annual snowmelt spill period at Strawberry Dam are steady to the extent feasible and still meet downstream consumptive water supply demands, with only gradual increases and decreases in streamflows (target maximum change of approximately 10 cfs per week);
- Streamflows in the Philadelphia Reach for the period from Labor Day to December 31 are not greater than 60 cfs and under-run 60 cfs when reasonably feasible;

- Streamflows in the 0.6-mile section of South Fork Stanislaus River between Strawberry Dam and Herring Creek are at least 5 cfs, year-round;
- Streamflow fluctuation in response to short duration natural events, such as storms and variation in rate of snowmelt, is allowed; and
- Sufficient minimum pool is maintained in Pinecrest Lake for ecological and fishery resources.

Recreation Operational Objectives:

- In all water year types, once spill at Strawberry Dam stops, the water surface of Pinecrest Lake is maintained as high as feasible, consistent with achieving the specified Ecological and Consumptive Water Supply Operational Objectives, and above elevation 5,610 feet (PG&E Datum) for as many days as feasible beginning Memorial Day weekend and extending through Labor Day weekend;
- If spill stops earlier than July 1, drawdown of Pinecrest Lake is targeted to reach Elevation 5,615 (PG&E Datum) as close as reasonably feasible to July 4 to enhance beach usability. If spill stops later than July 1, drawdown of Pinecrest Lake is accelerated to reach Elevation 5,615 as early as reasonably feasible.

Power Generation Operational Objectives:

- Pinecrest Lake is able to annually fill and be drawn down to a minimum pool;
- Flows in excess of that needed to meet the Ecological, Consumptive Water Supply and Recreation Operational Objectives are diverted at Philadelphia Diversion for power generation at Spring Gap and Stanislaus powerhouses;
- Flows in Philadelphia Ditch are maintained at sufficient levels during non-winter months to keep the canal clean of debris and ready for emergency operation, and during the winter months to prevent icing; and
- Pinecrest Lake operation is responsive to annual hydrological conditions. The Licensee shall develop its proposed Pinecrest Lake drawdown curve in consultation with the Forest Service, SWRCB, CDFG and TUD; to the extent these agencies request such consultation. The Licensee shall provide its proposed Pinecrest Lake drawdown curve to the Forest Service [and SWRCB] for approval and to CDFG, TUD and others who request such information, no later than April 15 of each year. The Licensee shall operate Pinecrest Lake in conformance with the drawdown curve as approved by the Forest Service [and SWRCB,] the minimum streamflow requirements specified below and to achieve the specified Operational Objectives.

If the Forest Service [and/or SWRCB] does not approve the Licensee's proposed drawdown curve, or if the Licensee anticipates at any time that it cannot operate consistent with the approved drawdown curve or cannot meet the minimum streamflow requirements (such as due to hydrological conditions or need to

conduct studies) it shall notify the Forest Service, SWRCB, CDFG, TUD and others who request such notification, Labeling the notification "Compliance Item, Immediate Attention Requested", and provide an alternate drawdown curve for the year that meets the specified minimum streamflow requirements and achieves the specified Operational Objectives to the greatest extent feasible. The Forest Service and notified parties shall be provided 30 days to review and respond to the Licensee's alternate drawdown curve. If the Forest Service, notified parties and TUD approve the alternate drawdown curve proposed by the Licensee, the Licensee shall implement the alternate drawdown curve. If the Forest Service, notified agencies and TUD do not approve the alternate drawdown curve proposed by the Licensee, but proposes an alternate drawdown curve that meets the specified minimum streamflow requirements and achieves the specified Operational Objectives to the greatest extent feasible, the Licensee shall implement the alternate drawdown curve proposed by the Forest Service, agencies and TUD, provided the Forest Service, agency and TUD alternative is consistent with actual physical conditions (such as equipment capability and hydrological conditions). If the Forest Service, notified agencies and TUD, within 30 days of notification do not respond, does not propose an alternate drawdown curve, or the alternate drawdown curve proposed by the Forest Service, agencies and TUD, cannot be implemented due to actual physical conditions, or the Licensee receives conflicting alternate proposals from the agencies and TUD that the Licensee cannot resolve through a good faith effort, the Licensee shall operate according to its proposed alternate drawdown curve, upon approval of the Commission.

In developing its proposed drawdown curve for Pinecrest Lake, the Licensee shall target storage in Pinecrest Lake of not less than 3,500 acre-feet on December 31 and, after consultation with TUD, shall, to the extent feasible, target storage in Pinecrest Lake of not less than 1,000 acre-feet from January 1 through the start of spill at Strawberry Dam. The absolute minimum storage in Pinecrest Lake shall not be less than 500 acre-feet.

Operation of Pinecrest Lake according to the minimum streamflow specified below and to achieve the specified Operational Objectives is subject to temporary modification if required by equipment malfunction, agency requirements, emergency or law enforcement activity, or critical electric or water delivery system emergencies beyond the control of the Licensee. In the event of such temporary modifications, the Licensee shall promptly notify the Commission, Forest Service, SWRCB, CDFG, TUD, and others that request such notification labeling the notification "Compliance Item, Immediate Attention Requested".

In Critically Dry water years, the Licensee may propose modifications to the specified minimum streamflows and Operational Objectives. If such modifications are proposed the Licensee shall consult with the Forest Service, SWRCB, CDFG, TUD and others who request such consultation as to the justification for the proposed modifications. This consultation shall be combined with Critically Dry

year consultation for other project-affected reaches, if applicable. The Licensee shall maintain the minimum streamflow specified for Dry water year conditions until such modifications are approved by the responsive agencies and the Commission.

Where facility modification is required to implement the specified minimum streamflows and the specified Operational Objectives, the Licensee shall complete such modifications as soon as reasonably practicable and no later than three years after license issuance. Prior to completion of such required facility modifications, the Licensee shall make a good faith effort to achieve the specified minimum streamflows within the capabilities of the existing facilities.

### **Minimum Streamflows**

In order to assure ecological needs are met, the Licensee shall maintain the minimum streamflows specified in the following tables. In addition, the Licensee shall maintain a year-round minimum streamflow of 5 cfs in SFSR between Strawberry Dam and Herring Creek. The Licensee shall, within one year of license issuance, develop and file with the Commission for approval, a plan for monitoring compliance with the 5 cfs requirement. The specified minimum streamflows are the minimum mean flow over a continuous 24-hour period. Instantaneous streamflow may, on an infrequent basis, deviate below the specified minimum streamflow by up to 10 percent. However, the Licensee shall make a good faith effort to meet the specified minimum streamflows at all times.

#### **Minimum streamflow schedule for the Pinecrest Reach (cfs) <sup>1, 2</sup>**

Month	Water Year Type			
	Dry	Normal-Dry	Normal-Wet	Wet
October 1-31	10	10	15	15
November 1-30	10	10	15	15
December 1-31	10	10	10	15
January 1 - February 9	10	10	10	15
February 10 - March 9	10	10	10	15
March 10 - April 9	10	10	10	15
April 10 - May 9	10	10	15	15
May 10 - May 31	10	10	15	15
June 1 - 30	10	10	15	15
July 1- 31	10	10	15	15
August 1 - 31	10	10	15	15
September 1 - 30	10	10	15	15

<sup>1</sup> The compliance location for the minimum streamflows shall be USGS gage 11296500 (PG&E gage S-61) on the SFSR below Herring Creek.

<sup>2</sup> Once Pinecrest Lake has reached the specified minimum storage of 500 acre-feet, the minimum required streamflows is the amount indicated, or the inflow to Pinecrest Lake plus accretion flows from Herring Creek, whichever is less.

**Minimum streamflow schedule for the Philadelphia Reach (cfs)<sup>1, 2</sup>**

Month	Water Year Type			
	Dry	Normal-Dry	Normal-Wet	Wet
October 1-31	10	10	15	15
November 1-30	10	10	15	15
December 1-31	10	10	10	15
January 1 - February 9	10	10	10	15
February 10 - March 9	10	10	10	15
March 10 - April 9	10	10	10	15
April 10 - May 9	10	10	15	15
May 10 – May 31	10	10	15	15
June 1 – 30	10	10	15	15
July 1- 31	10	10	15	15
August 1 – 31	10	10	15	15
September 1 – 30	10	10	15	15

<sup>1</sup> The compliance location for the minimum streamflows shall be USGS gage 11297200 (PG&E gage S-83) below Philadelphia Diversion.

<sup>2</sup> Once Pinecrest Lake has reached the specified minimum storage of 500 acre-feet, the minimum required streamflow is the amount indicated, or the inflow to Pinecrest Lake plus accretion flows between Strawberry Dam and Philadelphia Diversion, whichever is less.

**Condition No. 35—Spill Channel Management**

Within one year of license issuance, the Licensee shall file with the Commission a Spill Channel Management Plan that is approved by the Forest Service for the Spring Gap spill channel (adjacent to the Spring Gap penstock) and the Stanislaus Forebay spill channel (at the outlet of the Stanislaus tunnel near the Stanislaus Forebay).

The objective of the Spill Channel Management Plan shall be to minimize environmental impacts to National Forest lands over which spills occur. The Licensee shall endeavor to minimize flows into the spill channels during normal Project operation and, to the extent reasonably possible, during unusual or emergency situations.

The Plan shall first evaluate the magnitude of problems associated with spill channel water and sediment discharge to determine a reasonable course of mitigation and monitoring to meet Plan objectives. The plan would define methods to evaluate the nature of water and sediment discharges from the spill channels and, based on the results of the evaluation, identify reasonable measures to minimize erosion and protect the waters of the MFSR, as appropriate.

**Condition No. 36—Annual Employee Awareness Training**

The Licensee shall, beginning the first full calendar year after license issuance, provide annual employee awareness training in coordination with the Forest Service. The goal of the training shall be to familiarize the Licensee maintenance and operations staff with local resource issues, special status species, noxious weeds, procedures for reporting to the Forest Service, and Forest Service orders that pertain to the Stanislaus National Forest lands in the vicinity of the Project. Information on special status species and noxious weeds and their locations in the Project area shall be provided to field personnel.

**Condition No. 37—Special Status Species**

The Licensee shall, beginning the first full calendar year after license issuance, in consultation with the Forest Service, annually review the current list of special status plant and wildlife species (species that are Federal Endangered or Threatened, Forest Service Sensitive, or Stanislaus National Forest Watch List) that might occur within the Project Boundary. When a species is added to one or more of the lists, the Forest Service in consultation with the Licensee shall determine if the species or un-surveyed suitable habitat for the species is likely to occur within the Project Boundary. For such newly added species, if the Forest Service determines that the species is likely to occur, the Licensee shall develop and implement a study plan in consultation with the Forest Service to reasonably assess the effects of the Project on the species. The Licensee shall prepare a report on the study including objectives, methods, results, recommended resource measures where appropriate, and a schedule of implementation, and shall provide a draft of the final report to the Forest Service for review and approval. The Licensee shall file the report, including evidence of consultation, with the Commission and shall implement those resource management measures required by the Commission.

In addition, areas within the Project Boundary that have suitable habitat or known occurrences of selected special status wildlife or plant species shall be resurveyed every ten years in order to (a) determine if special status plant or wildlife species have changed in location (i.e. migrated into or moved within the Project Boundary), and (b) monitor for impacts caused by on-going Project activities. The licensee shall consult with the FS to determine which species need to be resurveyed. The survey interval may be adjusted based on the amount of movement or impacts to the species that are observed. Survey results shall be provided to the Forest Service. If the Forest Service determines negative impacts, the Licensee shall submit a proposal for actions to reduce or eliminate impacts to special status species. The Licensee shall file the report, including evidence of consultation, with the Commission and shall implement those resource management measures required by the Forest Service and approved by the Commission.

**Condition No. 38—Ground Disturbing Activities**

If the Licensee proposes activities that were not specifically addressed in the Commission's National Environmental Policy Act (NEPA) processes, the Licensee, in consultation with the Forest Service, shall determine the scope of work, and the potential Project-related effects and whether additional information is required to proceed with the planned ground disturbing activity. Upon Forest Service's request, the Licensee shall enter into an agreement with the Forest Service under which the Licensee shall fund a reasonable portion of Forest Service's staff time and expenses for staff activities related to the proposed activities.

**Condition No. 39—Environmental Monitoring**

The Licensee shall, within six months after license issuance, or as otherwise indicated, and in consultation with the Forest Service, State Water Resources Control Board (SWRCB) and California Department of Fish and Game (CDFG), develop detailed monitoring plans consistent with the descriptions provided below. The Licensee shall provide the final detailed plans, along with all agency comments received and an explanation for any such comments not adopted, to the Commission for final approval. The Licensee shall perform the Environmental Monitoring as approved by the Commission. It is anticipated that certain details of the environmental monitoring (e.g., specific years of sampling and/or specific study sites) may need modification during development of detailed study plans or during subsequent implementation of the environmental monitoring. All such modifications shall be developed in consultation with the Forest Service, SWRCB, and CDFG, and approved by these agencies and provided to the Commission before implementation. Where years are specified, year one is the first full calendar year after issuance of the new license.

**Relief Reach Riparian Vegetation Restoration and Streambank Stabilization**

Objective: Evaluate the effectiveness of the specified streamflow regime on riparian vegetation restoration and streambank stabilization; evaluate existing streambank conditions; develop and implement vegetation restoration and streambank stabilization measures.

Cost: Not to exceed \$200,000, 2004 cost basis, over a period of 10 years.

- Phase I: Evaluate existing information, develop recommendations for focused studies (year 1), and re-evaluate cost of implementation and monitoring. Consult with Forest Service, SWRCB, and CDFG before Phase II is implemented. The cost of this phase is estimated to be \$25,000.
- Phase II: Perform focused studies and develop recommended restoration (year 2). Consult with Forest Service, SWRCB, and CDFG before Phase III is implemented. The cost of this phase is estimated at \$25,000 to \$50,000.



- Phase III: Implement monitoring and/or restoration (year 3 and year 10 per schedule developed in Phase II and subject to obtaining necessary approvals and permits). The estimated amount remaining for this phase is \$125,000 to \$150,000.

### **Hardhead Monitoring in Camp Nine Reach and Sand Bar Dam Reach**

Objective: Determine if the specified streamflow regime affects hardhead habitat in the lower portions of the Sand Bar Dam Reach by evaluating hardhead distribution and abundance in the Camp Nine Reach (the 2.4 mile-long section of the Stanislaus River from the confluence of the Middle and North Forks of the Stanislaus River to the Stanislaus powerhouse) and the lower two miles of the Sand Bar Dam Reach.

Cost: Consistent with specified scope.

- Conduct five years of snorkel surveys and/or electrofishing to determine abundance and distribution of hardhead in the Camp Nine Reach and the lower two miles of the Sand Bar Dam Reach, beginning in year 1.
- Radio tag 10-20 hardhead from the Camp Nine Reach in year 1 to determine if hardhead are utilizing the lower Sand Bar Dam Reach or are only utilizing the Camp Nine Reach and New Melones Reservoir. The Licensee shall consult with the Forest Service in early year 1 to develop a detailed study plan for this task.
- Monitor algae abundance in Sand Bar Dam and Camp Nine reaches to determine relative food availability and evaluate if algae is limiting hardhead use in the lower Sand Bar Dam Reach. Conduct a general survey of algae abundance in the Sand Bar Dam and Camp Nine reaches in year 1 and, if needed, collect additional quantitative algae abundance information in year 2.
- Monitor water temperature for up to five years to coincide with snorkel surveys and/or electrofishing (i.e., same years as for snorkel and/or electrofishing surveys) at the following four sites: (1) Middle Fork Stanislaus River above North Fork Stanislaus River, (2) Stanislaus River above Collierville PH, (3) Stanislaus River below Collierville Powerhouse, and (4) Stanislaus River below Stanislaus Powerhouse).
- Prepare and distribute to the Forest Service, SWRCB, CDFG, and others upon request a final report after five years of study, including recommendations. Submit results of temperature monitoring and snorkel surveys to the Forest Service within six months following completion of each year of monitoring.

### **Trout Population Monitoring in Spring Gap Reach and Sand Bar Dam Reach**

Objective: Monitor and evaluate effects of the specified streamflow regime on trout populations in the Sand Bar Dam Reach, using for comparison trout

populations in the wild trout reference site established by CDFG upstream of the Spring Gap Reach (the 2.6 mile-long section of Middle Fork Stanislaus River from Spring Gap powerhouse to Sand Bar Diversion Dam).

Cost: Consistent with specified scope.

- Spring Gap Reach: Provide up to 50% of the labor or labor costs (in cooperation with CDFG and Forest Service) needed to electrofish one site (station 6, as identified in the License Application just upstream of Spring Gap Powerhouse) four times consistent with CDFG's three-year survey cycle at this site (expected in 2004, 2007, 2010, 2013).
- Sand Bar Dam Reach: Perform electrofishing surveys at the lower-most historical site in the Sand Bar Dam Reach (station 4, as identified in the License Application) three times after license issuance to coincide with surveys at station 6 just upstream of the Spring Gap Powerhouse (expected in years 2007, 2010, and 2013).
- Provide and distribute to the Forest Service, SWRCB, CDFG and other upon request, a report within one year following each survey, including recommendations following completion of the study.

#### **Foothill Yellow Legged Frog (FYLF) Monitoring in Sand Bar Reach and Camp Nine Reach**

Objective: Determine if the specified streamflow regime affects FYLF in the Camp Nine and Sand Bar Dam reaches and collect information to develop a Temperature Trigger for the minimum Supplemental Flows specified for the Sand Bar Dam Reach. The information will be used to establish a relationship between water temperature and breeding so Supplemental Flows are timed prior to temperatures at which breeding is initiated.

Cost: Consistent with specified scope.

- Complete and distribute to the Forest Service, SWRCB, CDFG and others upon request, by year 1, the Licensee's report on 2003 amphibian studies conducted in Relief Reach for mountain yellow-legged frog (MYLF), Philadelphia Reach (Visual Encounter Surveys and flow study for FYLF), Spring Gap Reach (Visual Encounter Surveys for FYLF), and Sand Bar Dam Reach (Visual Encounter Surveys and flow study for FYLF).
- Conduct up to five years of additional Visual Encounter Surveys for FYLF at a total of three known sites with FYLF (based on 2000, 2001, 2003 study results) in the combined Sand Bar Dam Reach and the section of Camp Nine Reach above Collierville Powerhouse. Surveys shall begin approximately 0.5 km below a known site and end approximately 0.5 km above the known sites.
- Resurvey FYLF habitat at the three monumented stream cross sections that were established by the Licensee in 2003 in Sand Bar Dam Reach to enable

monitoring of channel shape and substrate composition. The frequency of surveying cross sections shall be four times during the term of the license (anticipated to be years 5, 10, 15, and 25), and after any winter/spring flow event exceeding a 100-year recurrence interval.

- Conduct water temperature monitoring at three sites (Sand Bar Diversion Dam, mid-Sand Bar Dam Reach, and above the confluence of the South and North forks of the Stanislaus River) to coincide with amphibian surveys. Identify a relationship between water temperatures at Sand Bar Diversion Dam and downstream amphibian breeding sites (including intermittent tributaries) so that implementation of the Temperature Trigger can be done by measuring water temperatures only at Sand Bar Diversion Dam.
- Compile existing, relevant and reasonably available FYLF data from other hydroelectric projects in California licensed to Licensee to help develop the Temperature Trigger.
- Prepare and distribute to the Forest Service, SWRCB, CDFG and others upon request a final report, including recommendations, after completion of the study.

### **Mountain Yellow Legged Frog Study**

Objective: Determine if the specified streamflow regime or the Licensee's land management practices have an affect on MYLF in the Relief Reach.

Cost: Consistent with specified scope.

- Perform three years of additional Visual Encounter Surveys in the Kennedy Meadows area (ponds and river). Anticipated to be years 1, 2, and 3 after license issuance.
- Determine if MYLF habitat or known populations are affected by the specified stream flow regime or the Licensee's land management practices.
- Evaluate results and prepare and distribute to the Forest Service, SWRCB, CDFG and other upon request a final report, including recommendations, after completion of the study.

### **Condition No. 40—Maintain and Operate Philadelphia Diversion Fish Screen and Ladder**

The Licensee shall continue to maintain and operate the Philadelphia Diversion fish screen in accordance with the functional design filed with the Commission on May 3, 1993 and approved by the Commission on July 30, 1993, including transporting stream sediment through the structure and the option of removing the upper screen panels in the winter from December 1 through March 15 when ice and snow conditions may exist.

The Licensee shall continue to maintain and operate the Fish Ladder located at Philadelphia Diversion Dam. The Licensee shall annually, after the peak spring flow period, inspect the fish ladder and the downstream access pool and take timely actions to maintain their functionality.

**Condition No. 41—Noxious Weed Management Plan**

The Licensee shall within one year after license issuance file with the Commission a Noxious Weed Management Plan that is approved by the Forest Service, for the purpose of controlling and containing the Project-related spread of noxious weeds on National Forest System lands, which might be related to the Licensee's activities. The purpose of the plan is to establish (a) which populations of noxious weeds are the result of project activities and (b) which are a priority for control. At a minimum the plan shall:

1. Include a list of current infestations of potentially Project-related noxious weeds and pathogens (e.g. sudden oak death) with priorities for treatment.
2. Include a description of methods to control existing populations of noxious weeds caused by the Project or project-related recreation, including those that extend from the Project or have spread downstream from Project facilities. Noxious weeds presently identified include populations of tree of Heaven, cheat grass, Italian thistle, yellow star thistle, Himalayan blackberry, scotch broom, wild fennel, velvet grass, Klamathweed, bouncing bet, wooly mullein, and bull thistle. Where these populations are contiguous with populations outside the Project Boundary, or are downstream from those populations, the Licensee shall make reasonable efforts to control the entire population unit.
3. Describe efforts to control the spread of Project-related noxious weeds and plant pathogens/diseases within the Project Boundary. At a minimum efforts should include:
  - a. Assuring that Project staff is aware of the current location of these weeds and how to identify the noxious weeds likely to occur in the Project area.
  - b. Advising the Forest Service of observed new populations of noxious weeds and coordinating with the Forest Service for the eradication of the population.
  - c. Thoroughly cleaning all construction equipment and other equipment, including Licensee owned and rental equipment, that operates off the roads or moves soil before entering the Project vicinity and using reasonable cleaning methods to reasonably ensure that seeds of noxious weeds are not introduced.
  - d. Using 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 plant species native to the Stanislaus National Forest for restoration or erosion control purposes.
  - e. Monitoring of known populations of noxious weeds to evaluate the effectiveness of re-vegetation and noxious weed control measures.

- f. Conducting an inventory of noxious weeds at Project facilities and other possible points of introduction every five years using the current list of noxious weeds of concern to the Stanislaus National Forest. This frequency may be adjusted based on the results of these inventories. This inventory will be used to help prevent the spread of noxious weeds and will also serve as monitoring for the weed introduction prevention measures (c-d and g).
  - g. Avoiding entering areas with existing populations of noxious weeds including established parking areas. If necessary to enter these areas, the Licensee shall, where reasonably feasible, conduct work in clean areas first and then in the areas with weeds to avoid spreading weeds within the Project area.
4. Establish responsibility for and priority of control efforts, i.e. which noxious weed populations are Licensee responsibility, Forest Service responsibility or shared responsibility.

#### **Condition No. 42—Vegetation Management**

Within two years after license issuance, the Licensee shall file with the Commission a plan approved by the Forest Service for vegetation management on or affecting National Forest System lands. The plan shall include:

- 1. An implementation schedule for the Licensee to protect and enhance vegetation in the Pinecrest Day Use Area, consistent with the Forest Service's anticipated Recreation Implementation Plan.
- 2. Protection measures, such as placement of large rocks, for potential Project-affected populations of Sierra bolandra near Relief Reservoir and cut-leaved monkey flower near Pinecrest Reservoir.

#### **Condition No. 43—Wildlife Management**

The Licensee shall, within one year after license issuance, implement the following measures to maintain and enhance existing native wildlife species potentially affected by the Project:

- 1. For bats within the Project Boundary: (a) install up to three bat houses in the Project area; and (b) provide employee awareness training so that operation staff can perform Project maintenance with minimal disturbance to bats that use Project facilities.
- 2. In consultation with the Forest Service and CDFG, site, install and maintain two osprey nest platforms at Pinecrest Lake.
- 3. After consultation with the Forest Service and CDFG, conduct one season of surveys for western pond turtle at each of the Sand Bar Diversion Dam impoundment and the Stanislaus Forebay. If western pond turtles are found at either site, in consultation with the Forest Service and CDFG, develop a mitigation

plan for that site. The plan shall include the results of the surveys, recommended mitigation measures (such as installing basking logs), and an implementation schedule. File the plan, including evidence of consultation, with the Commission within six months of completing the survey, and implement the final plan within one year after its approval by the Commission.

Document Content(s)

P-2130-033order.DOC.....1-126