STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD

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

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 Rivers 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, 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 temperature 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.

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 Donnells 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 are to protect cottonwood seedlings in the Kennedy Meadows area, and the maximum streamflows during the winter months are to 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 in general.

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 to boat 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 make a good faith effort to provide a boating opportunity on two consecutive weekend days. The two-day concept is to give boaters the opportunity to boat the Sand Bar run the first day, camp along the river, 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. The certification condition requires the Licensee to develop a plan to minimize use of the spill channel (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 af of water and is timber-faced with steel-buttresses 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, power, warm and cold freshwater habitat, contact and non-contact recreation, canoeing and rafting and wildlife habitat 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; PG&E's final Federal Energy Regualtory 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 consider issuing 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 [date], the State Water Board provided notice of intent to adopt a mitigated negative declaration (SCH No._____) for the project. (Cal. Code Regs., tit. 14, § 15072.) The mitigated negative declaration reflects the State Water Board's independent judgment and analysis. After considering the document 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. On [date], State Water Board staff issued a draft water quality certification for public review. On [date], 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 10th 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 Deputy Director of the Division of Water Rights (Deputy Director) annually.

Water Year Types for the Spring Gap-Stanislaus Project

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

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 Donnells 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 Donnells 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 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 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 gate, subject to personnel safety and access limitations.

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Minimum and Maximum Streamflows for the Relief Reach (cfs) [1, 2]

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

[1]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.

[2]NA: Not Applicable

3. 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) [1, 2, 3]

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

[1]The compliance location for the minimum Daily Flows shall be USGS gage 11293200 (PG&E gage S-12).
[2]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.
[3]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) [1,2,3,4]

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

[1]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.
[2]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.
[3]The minimum Supplemental Flows are additive to the specified minimum Daily Flows.
[4]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 Donnells Reservoir (Peak Flow Trigger).

The Licensee shall consult with the FS, Deputy Director, 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 FS, 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 specified in the following tables between Strawberry Dam and the Philadelphia Diversion and below the Philadelphia Diversion Dam in the SFSR. 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 ft. and the inflow to Pinecrest Lake decreases so that the diurnal fluctuation does not cause the water surface elevation to exceed elevation 5,617 ft. 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, 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 ft. 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) [1, 2]

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

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

[2] 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) [1, 2]

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

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

[2] 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

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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, 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 TUD, 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 San 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:

a) Flow capacity = 530 cfs;
b) Approach Velocity = 0.33 to 0.4 feet per second (fps) at fish screen;
c) Sweeping velocity = 2 fps or greater at fish screen; and
d) 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 FS, 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 FS, 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 FS, Deputy Director, and CDFG before Phase II is implemented.

- Phase II: Perform focused studies and develop recommended restoration (year 2). Consult with the FS, 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 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 FS, 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 in 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 PH, (3) Stanislaus River below Collierville Powerhouse, and (4) Stanislaus River below Stanislaus Powerhouse.
- Prepare and distribute to the FS, 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 FS, 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 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).

- Prepare and distribute to the FS, 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 FS, 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 PH. 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 FS, 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 FS, 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, 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 (Dardanelles and Donnells 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 Donnells 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 that such 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 License, 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 for 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. Based on a review of the mining history of the watershed upstream of the Afterbay, sediment samples will be analyzed for mercury, methylmercury, 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 for the Division of Water Rights (Deputy Director). The State Water Board may modify terms and conditions in this certification, after notice and opportunity for hearing, to address project coordination necessary to protect water quality.

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. Licensee shall notify the Deputy Director in advance if flows from the Sand Bar Project are to be reduced. The State Water Board may modify terms and conditions in this certification, after notice and opportunity for hearing, to address water quality in the Sand Bar Reach.

19. 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 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.

20. The Licensee shall continue to maintain and operate the Philadelphia Diversion fish screen in accordance with the functional design filed with the 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.

21. 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.

22. 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.

23. 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.

24. Licensee must submit any change to the Spring Gap-Stanislaus 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.

25. 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.

26. 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.

27. 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.

28. 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.

29. 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.

30. 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.

31. 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).

32. The State Water Board reserves authority to modify or revoke 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 Fork Stanislaus River and tributaries.

33. 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.

34. 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.

35. 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.

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Dorothy Rice
Executive Director

Date: