

INITIAL STUDY

INTRODUCTION

This Initial Study addresses the environmental impacts associated with the issuance of a Federal Clean Water Act Section 401 Water Quality Certification and Permit to Appropriate Water by the State Water Resources Control Board (State Water Board) for the Pacific Gas and Electric Company's (PG&E) Spring Gap-Stanislaus Project [Federal Energy Regulatory Commission (FERC) Project No. 2130]. Issuance of the water quality certification by the State Water Board is a discretionary action under the California Environmental Quality Act (CEQA). Cal. Pub. Resources Code § 21000 et. seq. Accordingly, the State Water Board is required to comply with CEQA before considering issuance of water quality certification.

Under CEQA, a Project may be analyzed for its incremental effects over existing baseline conditions. In an analysis of an 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. Thus, most of the potentially significant impacts identified in this Initial Study are associated with the proposed measures.

Approvals for Which This Initial Study will be Used

The State Water Board will use this Initial Study in its decision-making process for the granting or denial of a Federal Clean Water Act Section 401 Water Quality Certification, and also in its consideration of PG&E's Application to Appropriate Water for power production at the Philadelphia Diversion Dam on the South Fork Stanislaus River (SFSR).

Should PG&E's plans to install a fish screen facility at the Stanislaus Tunnel, and/or to remove the Stanislaus Afterbay Dam be implemented, it may be necessary for PG&E to secure Section 404 Clean Water Act Permits from the U.S. Army Corps of Engineers (USACE) and Streambed Alteration Agreements from the California Department of Fish and Game (DFG). In those cases, this Initial Study could also be utilized by the USACE as its Environmental Assessment and by DFG in its decision making process.

Water Quality Certification

Section 401 of the Clean Water Act (33 USC §1341: CWA) requires any applicant for a federal license or permit, which may result in any discharge to navigable waters, to obtain certification from the State that the discharge will comply with the applicable water quality parameters in the Act. In this case the federal agency issuing the license is the FERC. States are further authorized to condition any water quality certification to assure compliance with appropriate state law related to water quality.

The State Water Board is required under Section 303 of the Clean Water Act, and the California Water Code (§13240) to adopt water quality standards. In response to these requirements the Regional Water Quality Control Boards (Regional Water Board) have prepared Water Quality Control Plans (Basin Plans) that designate the beneficial uses of waters to be protected, along with the water quality objectives necessary to protect those uses. When establishing water quality objectives the Regional Water Board must consider the past, present, and future beneficial uses, environmental characteristics, economics, and water quality conditions that could reasonably be achieved through the coordinated control of all factors which affect water quality. The Basin Plan for the Central Valley Region lists 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.

PROJECT DESCRIPTION

1.0 Proposed Action

PG&E proposes to continue to operate the Spring Gap-Stanislaus Project as it has historically been operated, but with modified streamflow regimes, modified reservoir operations, and other environmental measures, including Stanislaus Planning Action Team recommendation and U.S. Forest Service (USFS) section 4(e) conditions. PG&E also intends to remove the Stanislaus Afterbay Dam and construct and operate a fish screen at the intake to the Stanislaus Power Tunnel.

2.0 Existing Project

The existing Spring Gap-Stanislaus Project is composed of four developments: Relief, Strawberry (Pinecrest Lake), Spring Gap, and Stanislaus with a combined installed capacity of 87.9 megawatts (MW). Summary descriptions of these facilities are contained in the following sections.

2.1 Relief Development

The Relief Development includes: (1) the 223-acre Relief Reservoir with a gross storage capacity of 15,558 acre-feet (af) at elevation 7,215.0 feet United States Geological Survey (USGS) datum and a usable storage capacity of 15,200 af; and (2) 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.

2.2 Strawberry Development

The Strawberry development includes: (1) the 300-acre Pinecrest Lake, with a gross storage capacity of 18,312 af at elevation 5,620.1 feet (USGS) and a usable storage capacity of 18,266 af; 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.

2.3 Spring Gap Development

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 1 af at elevation 4,952.3 feet (USGS); (2) 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 that has a maximum hydraulic capacity of 60 cubic feet per second (cfs); (3) Spring Gap Forebay, with a storage capacity of less than one af at elevation 4,876.0 (USGS) bounded by a 13.5-foot high, 220-foot-long concrete header box with an 80-foot-long concrete overtop spillway; (4) Spring Gap Penstock, a 36.75-inch to 29.5-inch diameter, 7,249-foot-long riveted steel, partially buried penstock; (5) Spring Gap Powerhouse, a 53-foot by 44-foot single-story reinforced concrete structure with a maximum installed capacity of 7 MW; (6) one generating unit driven by an overhung impulse turbine with a maximum hydraulic capacity of 63 cfs; (7) Spring Gap Switchyard; and (8) other appurtenant facilities.

2.4 Stanislaus Development

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 af at a normal maximum elevation of 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 af at elevation 2,602.3 feet (USGS) bounded on the east by a shotcrete face earthfill 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 earthfill, compacted rock overlay dam that is 60 foot 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, a 72-foot by 78-foot reinforced concrete structure with a generating unit driven by a vertical-axis Pelton turbine with a maximum hydraulic capacity of 830 cfs and a maximum installed capacity of 91 MW; (6) the 5.1-acre Stanislaus Afterbay, with a storage capacity of 32 af 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; and (10) other appurtenant facilities.

3.0 Water Rights Application

PG&E currently holds water rights for power use at the Spring Gap-Stanislaus Project as shown in the following Table.

Schedule of Water Rights held by PG&E for operation of Spring Gap-Stanislaus Project.

Date	Application No.	License or Permit No.	SWDU No.	Diversion	Name of Body of Water at Diversion	Point of Use	Type of Use	Capacity*
1856			993	Pinecrest Lake	South Fork Stanislaus River	Spring Gap, Stanislaus, & Phoenix Powerhouses, TCWA	Power, Irrigation & Domestic	18,312 ac-ft
June 30, 1919	1339	1391.		Philadelphia Canal	South Fork Stanislaus River	Spring Gap & Stanislaus Powerhouses	Power	56.5 cfs
1908			994	Stanislaus Tunnel	Middle Fork Stanislaus River	Stanislaus Powerhouse	Power	575 cfs
February 19, 1941	10122	2862		Stanislaus Tunnel	Middle Fork Stanislaus River	Stanislaus Powerhouse	Power	160 cfs
1908			10404	Diversion to Stanislaus Tunnel	Unnamed stream	Stanislaus Powerhouse	Power	4 cfs
1909			992	Relief Reservoir	Relief (Summit) Creek	Stanislaus Powerhouse	Power & Domestic	15,554 ac-ft
Pre - 1914			1009	Relief Cottage domestic supply	Unnamed stream	Relief Dam tender's cottage	Domestic	30 gpm

* Maximum storage capacity in acre-feet, or direct diversion rate in cubic feet per second or gallons per minute

In addition to the above water rights, PG&E also filed an application with the State Water Board on March 28, 2002, to appropriate up to 6.5 cfs for power purposes at its Philadelphia Diversion Dam. This would be supplemental to the existing direct diversion right of 56.5 cfs and would allow for a total direct diversion right of up to 63 cfs.

4.0 Hydrology

The Stanislaus River is located on the western slopes of the Sierra Nevada Mountain Range. The Stanislaus River drains into the San Joaquin River and eventually the Pacific Ocean through San Francisco Bay. The Stanislaus River basin has mild, dry summers with little to no precipitation, and cold, wet winters with moderate to heavy precipitation. At elevations above 5,000 feet, this precipitation is in the form of snow. Water flowing into the Stanislaus River and its tributaries is derived primarily from precipitation and snowmelt in the watershed. The mean annual precipitation in the

region varies from 35 inches at the Stanislaus Powerhouse to 65 inches at the Calaveras Big Trees State Park. Heavy winter snowfall, most of which occurs from December through March, is the major form of precipitation. Annual snowfall averages about 150 inches, with snow usually covering the ground at elevations above 5,000 feet throughout the winter season. Lightning-loaded thunderstorms occur throughout the summer months, but little or no precipitation is produced by these storms. The area receives high flows during the snowmelt period, which typically extends from March through early July. Low flows may occur during the late summer and early fall, or during the late fall and winter when temperatures are low and precipitation remains in the form of snow pack.

The Middle Fork Stanislaus River (MFSR) headwaters originate with Kennedy Creek in the Emigrant Wilderness Area at an elevation of about 9,650 feet. Other major tributaries that feed the headwaters of the MFSR include Summit Creek and the Clark Fork of the Stanislaus River. From its headwaters, the MFSR flows generally southwestward for about 50 miles, and joins the North Fork Stanislaus River (NFSR) at an elevation of 1,230 feet, to form the main stem of the Stanislaus River. The MFSR drains an area of about 212,400 acres. In normal water years, the estimated unimpaired runoff in the MFSR is about 595,000 acre-feet of water. There are five dams on the MFSR. Relief, Donnell, and Beardsley dams provide storage, Beardsley Afterbay Dam primarily provides regulation, and Sand Bar Diversion Dam is used for flow diversion and has little storage capacity. The combined storage capacity of these five dams is 178,085 af, or 30 percent of the MFSR estimated unimpaired runoff of 595,000 af in a normal water year.

The South Fork Stanislaus River (SFSR) headwaters also originate in the Emigrant Wilderness Area near Hay Meadow at an elevation of about 8,800 feet. The only major tributary to the SFSR is Herring Creek. The SFSR flows southwesterly about 35 miles, until it drains into New Melones Reservoir, part of the Federal Central Valley Project. The SFSR drains an area of about 43,000 acres. There are three dams on the SFSR: Strawberry Dam that impounds Pinecrest Lake, a storage reservoir; Philadelphia Diversion Dam; and Lyons Dam that provides storage for the Phoenix Project. In normal water years, the estimated unimpaired runoff at the mouth of the SFSR is about 125,000 acre-feet of water. The combined storage capacity of these three dams is 24,541 af, or 20 percent of the SFSR estimated unimpaired runoff of 125,000 af in a normal water year.

There is one interbasin water transfer in the MFSR and SFSR watersheds. PG&E diverts water into the MFSR from the SFSR approximately 3.9 miles downstream of Pinecrest Lake. Water is diverted out of the SFSR at the Philadelphia Diversion Dam and into the Philadelphia Ditch that runs along the north side of the SFSR canyon. The canal diverts water to the Spring Gap Powerhouse that discharges into the MFSR at an elevation of about 3,000 feet, approximately 1.6 miles downstream of the Beardsley Afterbay Dam.

Additionally, the Tuolumne Utilities District (TUD) has contracts with PG&E for stored water in Pinecrest Lake. TUD may request water to be released from Pinecrest Lake into the SFSR for diversion by TUD at Lyons Reservoir and points downstream. TUD's contractual rights are generally described as follows:

PG&E has a contractual obligation to deliver to TUD any water the Licensee develops from the SFSR if necessary to meet TUD's consumptive demand. The "Base Supply," up to 10,000 acre-feet of water from Lyons Reservoir storage, natural flow of the SFSR, runoff into the Main Canal, and PG&E's releases (not requested by TUD) to the SFSR at Philadelphia Diversion Dam, is available at no cost to TUD. If TUD's actual usage is more than the maximum amount of Base Supply available to it, TUD pays PG&E for each acre-foot that could have been used for power generation at Phoenix Powerhouse. The payment amount is based on the current "Energy Prices for Qualified Facilities." If TUD's usage is less than 6,500 acre-feet of Base Supply, PG&E pays TUD 50 percent of the value of the water for power generation at Phoenix Powerhouse based on current "Energy Prices for Qualified Facilities" for each acre foot TUD's actual usage is less than 6,500 acre-feet per year.

In addition to the Base Supply, TUD can call on other water, "Supplemental Supply," available to PG&E from the SFSR, primarily water released from storage from Pinecrest Lake. TUD can call on Supplemental Supply of up to 9,500 acre-feet of water (maximum amount determined annually based on actual hydrologic conditions) at no cost to TUD. For deliveries in excess of the maximum amount of Supplemental Supply available, TUD must pay PG&E the current value of the excess water based on "Energy Prices for Qualified Facilities" for loss of power generation at Spring Gap and Stanislaus Powerhouses.

PG&E, Tri-Dam Project, and Tri-Dam Power Authority (TDPA) coordinate operation of the Spring Gap-Stanislaus, Beardsley/Donnells, and Sand Bar hydroelectric Projects. Operation is primarily based on prevailing water conditions; license requirements; and numerous contracts and agreements among Oakdale Irrigation District, South San Joaquin Irrigation District, PG&E, TUD, and the United States Department of Interior, US Bureau of Reclamation (USBR), which operates the New Melones Project.

Seasonal operations of Relief Reservoir and Strawberry Lake are dictated by the total river inflows on any given day and the expected volume of runoff in the late winter and spring. Both of these storage reservoirs are operated to capture as much of the spring runoff flows as practicable for generation, while meeting applicable minimum instream flow and other regulatory and contractual requirements. Seasonal storage is provided in Relief Reservoir, which was designed to operate with an allowable drawdown of about 125 feet. Fifteen-foot high flashboards are installed at Relief Dam spillway between April 2 and October 31 each year. During this period the maximum reservoir elevation possible without spill is about 7,338 feet.

Similar to the Relief development, Pinecrest Lake storage in the Strawberry development is primarily used to capture spring runoff. Water stored in the reservoir is used for generation and water supply purposes and the reservoir level is drawn down accordingly. Maximum storage elevation is 5,617.5 feet. Water is released for operational needs such as power generation, water supply, and minimum instream flows. Reservoir operating levels vary from year to year depending on annual runoff. PG&E does not operate this reservoir based on a rule curve. Instead, it annually analyzes hydrological conditions and power generation potential using computer models, then operates the reservoir within constraints, including water supply and recreation considerations, based on the model results.

The two powerhouse developments have different operating parameters. The Spring Gap development is operated in a run-of-the-river mode to optimize the trans-basin water diversion from SFSR to MFSR. In summer and fall the Spring Gap development generates at the level water availability permits. Flows during the summer and fall period can range from 0 to 61 cfs through Spring Gap Powerhouse. The Stanislaus development is operated to optimize the generation of peaking energy with Automatic Generation Control capability. This load-following capability is important for the reliability of the California electric system and is bid into or called upon by the California Independent System Operator (ISO) on a daily basis. Summer and fall operation of this development is characterized by highly variable, minute-by-minute load changes as electric system requirements demand. Flows during the summer and fall period can range from 0 to 830 cfs through Stanislaus Powerhouse.

Operation during the winter and spring seasons is often characterized by periods of full load operation during periods of high streamflow or when the reservoirs are being drawn down in anticipation of high flows. Generating flows during these high flow periods are as high as possible to minimize spill flows at Relief and Strawberry Dams. Flows through Spring Gap Powerhouse can range from about 0 to 61 cfs depending on water availability. Flows through Stanislaus Powerhouse still range from 0 to 830 cfs during these high flow periods due to limits in the hydraulic capacity of the Stanislaus Power Tunnel and due to the need for ancillary services such as Automatic Generation Control.

The Spring Gap development consists of Philadelphia Diversion Dam, Philadelphia Ditch, and Spring Gap Powerhouse. Philadelphia diversion Dam is an 11-foot high structure that impounds less than 1 af of storage. The water surface is maintained near a constant elevation of 4,948.5 feet except during high flow events when water spills over the dam. Water is diverted into Philadelphia Ditch (61 cfs capacity) which carries water to Spring Gap Forebay (< AF) and Spring Gap Powerhouse (7MW).

The Stanislaus development consists of Sand Bar Diversion Dam, Stanislaus Power Tunnel (530 cfs capacity), Stanislaus Forebay (320 acre-feet), and Stanislaus Powerhouse (91 MW). Sand Bar Diversion Dam impounds about 45 acre-feet of storage within Sand Bar reservoir. The water surface is maintained near a constant

elevation of 2,751.6 feet except during high flow events when water flows over the spillway.

The Spring Gap-Stanislaus Project alters the unimpaired hydrology, with the most significant effects being the elimination of high flow events in the Sand Bar Dam Reach in dry years when the upstream reservoirs do not spill, reduction in summer flows in this same reach, and a significant change to the shape of the seasonal hydrograph in the Relief and Pinecrest reaches. Relief Reservoir affects flows in the MFSR at Kennedy Meadows. The upstream reservoirs (Relief, Donnell's, and Beardsley) and the outflow from the Spring Gap Powerhouse affect flows in the MFSR below Spring Gap Powerhouse. The upstream reservoirs, the Spring Gap and Sand Bar Powerhouses, and the Sand Bar Diversion Dam affect flows in the MFSR below the Sand Bar Diversion Dam. Pinecrest Lake affects the flow in the SFSR at Strawberry. Pinecrest Lake and the operation of the Philadelphia Diversion affects flow in the SFSR below the Philadelphia Diversion. PG&E's operational priorities for the SFSR are first to meet all environmental requirements, second to meet water supply obligations, and third to generate electric power.

5.0 Removal of the Stanislaus Afterbay Dam

5.1 Description of Existing Facility

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.

The dam crest is approximately 194 feet long and has a maximum height of 18 feet from its lowest opening. The timber-faced steel buttresses vary in height from 9 feet 6 inches to 13 feet. A concrete gravity section about 13 feet wide is located about 40 feet from the left abutment. A 4-foot wide by 5-foot high opening near the center of the dam with an invert elevation of 995 feet permits in-stream flow releases during periods of low flows. Four hydraulically operated slide gates with inverts at elevation 1000 feet were provided for controlling supplemental flows. For flows over 800 cfs, the dam is overtopped. Because the dam is no longer functional, it 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.

5.2 Proposed Scope of Work

It is proposed to remove the timber-face and steel-buttresses and enlarge the notch near the center of the dam. The proposed work would include the following:

1. Perform sediment testing in the area where work will be performed at least two months prior to the start of construction.

2. Mobilize construction resources at the site.
3. Implement the provisions of the storm water pollution prevention plan.
4. Construct a temporary access road to the streambed off the existing paved access road below Camp Nine Road along the left bank.
5. Excavate channel and/or install a bladder dam to divert river flows to the right side of the river channel.
6. Excavate and relocate sediments against the upstream face and back, spreading the sediment upstream on the left side of the existing river channel within the flood plain. (Note: In the event that contaminated sediments are discovered, those sediments will be removed from the site and disposed of under the direction of PG&E's Environmental Coordinator.
7. Remove the timber-faced steel-buttresses from the left side of the dam, cutting them flush with the existing concrete foundation slab.
8. Remove (chamfer) the downstream concrete edge of the dam foundation.
9. Install temporary railroad car type bridge over excavated slot on river left to provide construction access to the sandbar in the middle.
10. Relocate the bladder dam from the left side of the river to the right side to move the river flows to the left side of the dam (between the gravity section and the left shore of the river). This will allow construction crews to dewater the right side (between the gravity section and the right shore of the river).
11. Excavate and relocate sediments against the upstream face of the right side of the dam, spreading the sediment upstream on the right side of the existing river channel within the flood plain.
12. Remove the timber-faced steel-buttresses from the right side of the dam, cutting them flush with the existing concrete foundation slab.
13. Remove concrete on either side of the existing 4 ft. x 5 ft. high wide chute to create a trapezoidal channel for the fish and recreational boating passage.
14. Remove (chamfer) the downstream concrete edge of the dam foundation.
15. Restore the flows to right side of the dam and normal flow through the site.
16. Remove the temporary construction access (railroad car type) bridge over excavated slot on river left.
17. Recycle the asphalt, concrete and steel and dispose of timber.
18. Install final erosion control measures.
19. Demobilize from the site.

5.3 Land Use

Construction work will be performed within the FERC Project boundary on lands managed by the USBR. Access will also occur via USBR lands. A temporary laydown area for construction equipment and materials will be located on the flat area adjacent to Stanislaus Powerhouse Switchyard. Work will be performed in accordance with the Storm Water Pollution Prevention Plan.

5.4 Access

Access to the construction site will be via State Highway 4 from Angels Camp to Parrots Ferry Road and Camp Nine Road. From Parrots Ferry Road to the site is approximately 9 miles. A new access road will be constructed from the existing spur road that leads to

the old USBR bridge just downstream of the dam. This road will begin approximately 150 ft. upstream of the dam and will be constructed in such a fashion to avoid any disturbance of any of the rock walls. A cultural survey will be performed by a PG&E Cultural specialist in conjunction with State Historic Preservation Officer approval. PG&E proposes, with USBR's approval, to leave this access road in place after the completion of the Project to facilitate future public access for recreational purposes.

5.5 Safety During Construction

Traffic impacts for this work will be minimal. Approximately four trucks per day to the site are anticipated with intermittent hauling of removed materials. Warning signs of construction activities will be placed on Camp Nine Road and in the vicinity of the construction area.

5.6. Work Shift

Except for the preliminary access work, the work will be performed on a seven-day week, 16-hour or 20-hour day, schedule, Monday through Sunday.

5.7 Project Schedule

Upon receipt of required approvals, construction is anticipated to start on or about October 1, and be completed by November 15. The work plan is based on river flows during a two-week period not exceeding 325 cubic feet per second. Maintaining the required minimum flows and the timing of construction activities requires coordination between Tri-Dam, Northern California Power Agency, and PG&E.

5.8 Erosion Control/Dust Abatement

The areas of disturbance will be approximately two acres. Therefore, a Storm Water Pollution Prevention Plan will be developed to address specific site mitigation measures to prevent erosion and protect water quality. Temporary surface drainage ditches, water bars, and filter barriers will be provided along the access road to mitigate any potential erosion from rain during construction.

5.9 Water Quality/Discharge

Demolition activities will take place within the streambed. A stream flow bypass will be constructed by excavating a trench and installing a water-filled bladder to divert flow away from the demolition area. The 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. A leakage control pump, filter bag system or settling tanks may need to be installed to minimize turbid water that is created by the upstream work.

5.10 Biological Resources Protection

Potential impacts to biological resources are expected to be minimal, given the restricted work areas at the Stanislaus Afterbay Dam location and the protective measures employed to minimize impacts. PG&E will consult USBR, DFG, USFS, Deputy Director for Water Rights (Deputy Director), and the Executive Officer of the

Regional Water Quality Control Board (RWQCB) to refine, as needed, the resource protection measures described below to eliminate potential impacts to biological and water quality resources.

Aquatic Resources

Foothill Yellow-Legged Frog - Habitat assessments and visual encounter surveys (VESs) for foothill yellow-legged frogs (FYLFs) (*Rana boylei*) were conducted during the summer of 2001 and 2003 as part of relicensing the Spring Gap-Stanislaus Project (PG&E 2002a, ECORP 2004). FYLF were identified from several locations in the MFSR located upstream of Stanislaus Afterbay. Stanislaus Afterbay is downstream of NCPA's Collierville Powerhouse and PG&E's Stanislaus Powerhouse and is within the highwater level of New Melones Reservoir. The nearest FYLF occurrence to Stanislaus Afterbay was documented in the Middle Fork Stanislaus River upstream of Collierville Powerhouse and Stanislaus Afterbay. Although FYLF migration data are limited, there may be some movement between local Sierran subpopulations in close proximity (<500 m); adult FYLFs have been documented to move up to 100 meters from water during the winter (S. Kupferberg as cited in PG&E 2002). Stanislaus Afterbay, however, was determined not to be potential FYLF habitat during the relicensing studies because it is a man-made impoundment and experiences frequent extreme fluctuations in water surface elevation due to the influence of Collierville and Stanislaus Powerhouses, which are both peaking powerplants. In addition, habitat below Stanislaus Afterbay Dam is within the high water level of New Melones and thus would not be suitable habitat for FYLF populations.

PG&E biologists will conduct a one-day visual pre-construction survey for amphibians one week prior to the proposed construction start date (on or about October 1). If FYLF are found within the proposed construction area, they will be relocated upstream to suitable habitat, unless they are in habitat that will be unaffected by construction activities.

Kokanee - Upstream passage for spawning kokanee from New Melones Reservoir should not be an issue after removal of the steel and wood portion of the afterbay dam and modification of the low-flow channel. Hydraulic calculations indicate that under low-flow conditions (80 cfs¹) in the fall (when kokanee spawn), the low-flow channel will provide adequate swim-in conditions (no jump required to enter the channel); the flow within the slot will be between three and four feet in depth, with velocities of only about three feet per second (fps), over a distance of 30 feet. This is within the criteria suggested by Taylor and Love (2003) for adult non-anadromous salmonid passage through culverts less than 60 feet in length, a somewhat analogous situation. Taylor and Love suggest adult non-anadromous salmonids can pass culverts with flow at least 0.67 ft. deep and velocities of 4 fps or less. Because Stanislaus and Collierville Powerhouses operate as peaking units at this time of year, flows at the Afterbay Dam site will usually be at minimum levels from early evening to late morning, when most upstream movement would occur.

¹ Assumes 50 cfs from Sand Bar Diversion and 30 cfs from the NFSR.

Precise calculation of upstream passage hydraulic conditions during powerhouse peaking or during high spring flows is difficult to predict because the degree to which the downstream pool will back-flood over the remaining dam footing at high flows is not precisely known. However, even without accounting for the backwater effect, it is known that under regulated conditions during the spring of about 2,800 cfs¹ the concrete foundation will be submerged from bank to bank, providing multiple routes for upstream passage by fish.

Terrestrial Resources

Valley Elderberry Longhorn Beetle - Stanislaus Afterbay is located at approximately 1,007.5 feet, within the elevational range of valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*) (VELB) (<3,000 ft. elevation). VELB surveys were conducted by PG&E during the Spring-Gap Stanislaus Project relicensing studies. Elderberry plants were located at eight locations below 3,000 ft. along Camp Nine Road between Vallecito and Stanislaus Powerhouse.

PG&E biologists will conduct a one-day pre-construction elderberry shrub survey within the work area one week prior to the construction start date. PG&E biologists will conspicuously flag the elderberry plants located during the survey, to identify the plant to the construction crews. If any additional elderberry plants are identified, the plants will also be conspicuously flagged. All construction personnel will be made aware of the shrub locations. If vegetation trimming/removal is necessary, work will follow PG&E's VELB Conservation Program (PG&E and FWS 2003).

Special Status Plants - A special status plant survey was conducted by PG&E during the Spring-Gap Stanislaus Project relicensing studies. Nine confirmed occurrences of four special status plant species were documented in the Spring-Gap Stanislaus Project area. These included Sierra Bolandra (*Bolandra californica*), Mountain lady's slipper (*Cypripedium montanum*), Stebbin's Lomatium (*Lomatium stebbinsii*), and Cut-leaved monkeyflower (*Mimulus laciniatus*). No state or federally listed rare, threatened, endangered or candidate species were observed in the Spring Gap-Stanislaus Project area. In addition, no special status plant species were found in the vicinity of Stanislaus Afterbay Dam.

PG&E biologists will conduct a pre-construction special status plant survey in the Stanislaus Afterbay and laydown work areas, including a 50 ft. buffer zone, during spring or summer. Survey protocol will follow the California Native Plant Society's "Guidelines for Assessing Effects of proposed Developments on Rare Plants and Plant Communities".

Water Quality

Turbidity - Turbidity monitoring will be conducted while the removal of Stanislaus Afterbay is being performed (scheduled to begin in the fall). *In-situ* monitoring for turbidity will be performed upstream of the construction activities and approximately 300 feet downstream of the construction. Upstream and downstream measurements will be

¹ Assumes 480 cfs from Sand Bar Diversion, 30 cfs from NFSR, 830 cfs from Stanislaus PH, and 1,475 cfs from Collierville.

made in a well mixed, flowing portion of the river. During construction activities that may have an effect on water quality in the river (e.g., using a backhoe in the de-watered stream bed), turbidity will be monitored twice per day (approximately 10:00 AM and 02:00 PM). Turbidity monitoring instruments will be calibrated daily according to manufacturer's specifications. Turbidity measurements, along with any other pertinent information, will be entered onto field data sheets, and will be retained on site and serve as a log of all water quality data that is collected during construction activities.

As a guideline, if during the *in-situ* water quality monitoring, the downstream turbidity exceeds 50 NTU the sampling frequency will increase to hourly intervals during construction activities, and additional *in-situ* water quality parameters will be monitored (i.e., water temperature, dissolved oxygen (DO), and DO % saturation). On-site personnel will determine if the increase is due to the construction activities and take appropriate measures to minimize impacts to water quality. The guideline of 50 NTU was derived from Newcombe 2003.

If the downstream turbidity remains above 20 NTU for more than four hours or if the DO concentration falls below 75% saturation¹, then PG&E will immediately contact State Water Board, Division of Water Rights (916) 341-5300; attention Russ Kanz, or the Manager of the Hearings and Special Programs Unit, to explain the situation and identify the steps PG&E is taking to minimize water quality impacts.

Sediment Sampling - Sediment samples will be collected for selected trace metal analysis for sediment deposited upstream of Stanislaus Afterbay Dam. Sediment samples will be collected to determine levels of metals listed below 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, such as an environmental soil probe, may be used to collect the samples. A composite of fine-grained material at each station will be collected for metals analysis. 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.

Preconstruction Survey/ Monitoring - In addition to the biological and water quality preconstruction surveys described above, workers will attend a tailboard to discuss the identification of the elderberry plants and safe handling and movement of FYLF in the work area should they be encountered. Workers will also be informed on how to move fish to appropriate locations immediately upstream if found in areas being dewatered.

5.11 Fire Hazard Prevention

Site preparation and construction will take place during the normal fire season in an area previously burned. Crew pickups will have the following equipment:

¹ DO saturation below 75% can be stressful to aquatic life.

- One shovel, one axe and one or more UL rated 4BC extinguisher on each pickup, crew truck and personal vehicle.
- One shovel with each tractor, backhoe or other heavy equipment. One shovel and one five-gallon water-filled backpack pump with each welder.
- One shovel and one fully charged chemical fire extinguisher at a point not greater than 25 feet from the work site for each gasoline powered tool, including chain saws and rock drills. Fire extinguishers shall be of the type and size set forth in the *California Public Resources Code*, Section 4431 and the *California Administrative Code*, Title 14, Section 1234.
- Shovels will be a type "O" with an overall length of not less than 46 inches. Axes or pulaskis (pulaskis being the tool of preference) will have a 2.5 pound or larger head and have an overall length of not less than 28 inches.

5.12 Disposal, Cleanup and Demobilization

Timber, structural steel, concrete and asphalt from the demolished dam and access road will be removed from the site and disposed of or will be recycled. Anticipated quantities are shown in the following table.

Anticipated Quantities of Materials to be Removed from Stanislaus Afterbay Dam

Material	Approximate Quantity	Disposal Means
Sediments	200 to 1,200 cubic yards	Spread uniformly just upstream of the dam along the left and right banks
Timber	10,600 board feet (4" x 12" planking)	Landfill
Structural Steel	16,500 pounds (32 buttresses)	Recycle
Gates	2,000 pounds (4-4' x 5' gates)	Recycle
Concrete	6 cubic yards	Recycle
Asphalt	10 cubic yard	Recycle

Following completion of demolition activities, the job site will be returned, as much as is reasonably practical, to its original condition. All environmental mitigation measures stipulated by agency approvals and permits will be implemented in a timely manner. All equipment and surplus materials will be removed from the site.

5.13 Hazardous Materials

Materials such as fuel (gasoline/diesel), hydraulic oil, and motor oil will be used on the job site. Material Safety Data Sheets for all substances used on the job site will 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.

5.14 Cultural Resources

A cultural resource inventory that included the area to be impacted was performed for the FERC relicensing in 2000. The inventory was conducted in compliance with Section 106 of the National Historic Preservation Act.

The PG&E cultural resource specialist will conduct a field visit to confirm the absence of archeological resources within the Project area. In addition, PG&E will consult with the USFS and State Historic Preservation Officer (SHPO) as necessary to obtain their approval of the Project.

5.15 Permitting and Agency Approvals

The proposed demolition is within the FERC boundary and will require FERC approval. USBR approval will also be required. A Streambed Alteration Notification will be submitted to the DFG for approval for this work. Since most of the work activities will take place within the streambed, no impact to cultural resources is anticipated. PG&E will consult with the following resource agencies to obtain any approvals and permits that may be necessary to conduct this work: USFS, Corps of Engineers, USBR, and DFG.

6.0 Stanislaus Power Tunnel Fish Screen

6.1 Description of Existing Facility

The existing Stanislaus Tunnel intake is a concrete structure with a bench flume that is approximately 360 feet long by 20 to 25 feet wide and necks down to a width of 9 feet 6 inches before joining the tunnel. Two sets of bar racks catch debris. The inlet bypass consists of a 30-inch diameter pipe with a 24 by 24 inch slide gate which discharges back into the MFSR. A fish ladder, abandoned under a 1991 FERC order, parallels the inlet structure opposite the first bar rack.

The Stanislaus Tunnel was constructed in 1939 to replace an original flume. The tunnel is 11.4 miles long and is an arch shaped tunnel approximately 10.75 feet high and 9.5 feet wide.

6.2 Proposed Scope of Work

PG&E proposes to construct a fish screen between the Diversion Dam and the tunnel to reduce the entrainment of juvenile fish and return them to the MFSR. The operational and environmental requirements and considerations for a fish screen were developed based on the requirements for operation of the Project, DFG and National Marine Fisheries Service (NMFS) fish screening requirements, and the Spring Gap-Stanislaus Project pending FERC license.

Based on those requirements and a feasibility study, it was decided to construct the fish screen parallel with the existing bench flume while providing access between the flume and the fish screen. The inlet to the facility will be piped downstream of the gates at the

diversion dam to the screen for equipment access over the buried pipes. The existing hillside will be excavated to provide pedestrian access alongside the new intake facility. The screen will consist of vertical wedge bars panels in a "V" shaped funnel approximately 90 feet long, and will be designed to handle flows from 100 to 530 cfs while providing fish passage back to the river.

Construction of the fish screen will involve the following major tasks:

- 1) Mobilize construction resources at the site, establish temporary facilities and develop a permanent spoil disposal area.
- 2) Demolish the existing river gate float structure, in-stream collection box, 36-inch in-stream release and flume concrete as required.
- 3) Dewater the bulkhead for the bypass pipe and the 24-inch fish return pipe.
- 4) Excavate rock and soil for the screen structure and downstream tunnel tie-in.
- 5) Furnish and install the 72-inch bypass pipe and the 24-inch fish return pipe.
- 6) Furnish and install flow control gates for fish screen and in-stream bypass.
- 7) Construct the fish screen concrete structure, bypass intake structure and bypass outlet structure, complete with gates and trash racks.
- 8) Construct the control building.
- 9) Fabricate and install metals (e.g., trash racks, screen panels, platforms, hoists, walkways, stairs, ladders, fencing and gates).
- 10) Furnish and install mechanical systems (e.g., in-stream release bypass system, juvenile fish return system, sediment control and wash water system and brush cleaning system).
- 11) Furnish and install electrical systems and controls.
- 12) Furnish and install radio system upgrades.

6.3 Work Shift

In general, the work will be performed on a five-day week, 8 or 10 hour day schedule, Monday through Friday.

6.4 Project Schedule

The Project schedule is dependent upon the receipt and acceptance of the FERC license. The construction would take approximately five months for an estimated completion date and start of operation in December 2010.

6.5 Erosion Control/Dust Abatement

The construction site and laydown areas consist of a mixture of organic soils, clays, sands, gravels and exposed granite. Dust abatement will be provided by a water truck. USFS Road 4N88 will also be wetted to mitigate nuisance dust. The potential for erosion at the site during construction is minimal. Temporary surface drainage ditches, water bars, sediment ponds and filter barriers will be provided to mitigate any potential erosion from rain during construction.

6.6 Water Quality/Discharge

PG&E will develop a water quality monitoring and protection plan prior to beginning construction. The water quality monitoring and protection plan shall be submitted to the Deputy Director for review and approval. The plan shall include best management practices. Oil collection booms will be strategically placed to provide additional protection in the event of an equipment release.

6.7 Biological Resources Protection

Little impact to terrestrial biological resources is anticipated because most construction activities will occur within a previously disturbed area. Modest impacts to aquatic resources may be encountered, however, for activities within the streambed. PG&E will consult with the DFG, US Fish and Wildlife Service (USFWS), USFS, and Regional Water Board to identify and develop appropriate mitigation measures for potential impacts to aquatic and terrestrial biological resources. No raptor nestings within the immediate area have been identified to date, but in any case, construction activities are planned well after the nesting season.

6.8 Fire Prevention

Site preparation and initial construction will take place during the normal fire season. Therefore, a forest fire response trailer will be stored at the site as a precautionary measure. Crew pickups will be equipped with shovels and 5-gallon water back packs.

6.9 Hazardous Materials

Materials such as fuel (gasoline/diesel), hydraulic oil, and motor oil will be used on the job site. Material Safety Data Sheets for all substances used on the job site will 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.

6.10 Cultural Resources

An archeological survey of the impacted area will be performed under the auspices of SHPO prior to construction to identify any cultural resources and a plan will be developed to mitigate potential impacts.

6.11 Permitting and Agency Approvals

The proposed work will require FERC approval. In addition, PG&E will consult with the following resource agencies to obtain any necessary approvals and permits:

- USACE, Section 404 Permit
- USFS, Project Approval
- DFG, Streambed Alteration Agreement
- Regional Water Board, Storm Water Pollution Prevention Plan

7.0 Environmental Measures

7.1 SPLAT Recommended Resources Measures

The Stanislaus Planning Action Team (SPLAT) stakeholders group was formed in 1999 and met on a regular basis with the goal seeking agreement among as many participants as feasible on resource management recommendations. In 2004 SPLAT reached agreement on recommended resource measures for the Spring Gap-Stanislaus Project, which were filed by PG&E with FERC by letter dated March 1, 2004. Those measures are considered to be the application for water quality certification as well as the application for new license with FERC. The proposed measures are briefly summarized below:

- **Coordinate Operations with the Beardsley/Donnells Project - Coordinate Project operations with operations of the Beardsley/Donnells Project, FERC No. 2005, to optimize resource utilization and protection and to assure that license conditions are met.**
- **Coordinate Operations with the Sand Bar Project - Coordinate Project operations with operations of the Sand Bar Project, FERC No. 2975, to optimize resource utilization and protection and to assure that license conditions are met.**
- **Ramping Rate - 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 gauge 11293200 [PG&E gauge S-12 below Sand Bar Diversion Dam], USGS gauge 11292000 [PG&E gauge S-52 at Kennedy Meadows], USGS gauge 11296500 [PG&E gauge S-61 below Herring Creek], and USGS gauge 11297200 [PG&E gauge S-83 below Philadelphia Diversion Dam]) or at a different location if more representative of the stream channel configuration.**
- **Maintain and Operate Philadelphia Diversion Fish Screen - 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.

- **Maintain and Operate Philadelphia Diversion Fish Ladder - 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 action to maintain their functionality.**
- **Contribute Annually to Fish Stocking at Pinecrest Lake and Pinecrest Reach - 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 DFG, provided such stocking is performed.**
- **Vegetation Management - After consultation with the USFS, take the following specific Vegetation Management actions:**
 1. **Prepare a plan and implementation schedule for the Licensee to protect and enhance vegetation in the Pinecrest Day Use Area, consistent with the USFS's anticipated Recreation Implementation Plan and recreation facility rehabilitation and improvement in this area. The Licensee shall implement the plan upon approval by FERC.**
 2. **Consult with the USFS to identify and implement reasonable 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. The Licensee shall implement the plan upon approval by FERC.**
- **Noxious Weeds - File with FERC, a Noxious Weed Management Plan that is approved by the USFS for the purposes of controlling and containing the Project-related spread of noxious weeds on National Forest System Lands. 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 eradication.**
- **Annual Employee Awareness Training - Provide annual employee awareness training in coordination with the USFS. The goal of the training shall be to familiarize the Licensee's maintenance and operations staff with local resource issues, special status species, noxious weeds, procedures for reporting to the USFS, and USFS orders that pertain to Stanislaus National Forest (STF) 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.**

- **Wildlife Management** - Implement measures to maintain and enhance existing native wildlife species potentially affected by the Project.
- **Special Status Species** - In consultation with the USFS, annually review the current list of special status plant and wildlife species (species that are Federal and California Endangered or Threatened, USFS Sensitive, California Species of Concern, or STF Watch List) that might occur within the Project Boundary. When a species is added to one or more of these lists, the Licensee shall consult with the USFS to 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 USFS determines that the species is likely to occur, the Licensee shall develop and implement a study plan in consultation with the USFS to reasonably assess the effects of the Project on the species.
- **Ground Disturbing Activities** - Notify the USFS at the annual Project Operations meeting of the Licensee's plans for potential ground disturbing activities for the calendar year. If the Licensee proposes activities that were not specifically addressed in FERC's NEPA process, the Licensee, in consultation with the USFS, shall determine the scope of work, and potential Project-related effects, and whether additional information is required to proceed with the planned ground disturbing activity.
- **Historic Properties Management Plan** - Prepare a Historic Properties Management Plan (HPMP) in consultation with the USFS and the SHPO.
- **Recreation Streamflow Information** - Make recreation streamflow information available to the public.
- **Provide a Recreation Streamflow Event in Sand Bar Reach** - Make a good faith effort to 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, if such flows have not occurred in the previous two years.
- **Dismantle Stanislaus Afterbay Dam** - Develop a plan for removing the steel and timber superstructure of Stanislaus Afterbay Dam to enhance aesthetics and public safety for river recreationists. The Licensee shall file the plan with FERC and shall implement measures approved by FERC, subject to acquisition of all required permits and approvals.
- **Fuels Management** - In consultation with the USFS, prepare a Fuel Treatment Plan for STF lands within the Project Boundary.
- **Road Management Plan** - In consultation with the USFS, prepare a Road Management Plan for all USFS and unclassified roads required by the Licensee to access the Project area.

- Relief Reservoir Operator Cabin - In consultation with the USFS, develop a plan for removal of the Licensee's existing Operator Cabin located approximately 0.5 mile downstream of Relief Dam.
- Water Year Types - 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*).
- Drawdown of Relief Reservoir and Streamflows in Relief Reach - 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 specified Operational Objectives.
- Minimum Streamflows in Sand Bar Reach - 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.
- Drawdown of Pinecrest Lake and Streamflows in Pinecrest and Philadelphia Reaches - 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, Recreation and Power Generation Operational Objectives.
- Stanislaus Power Tunnel Fish Screen - 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.
- Environmental Monitoring - In consultation with the USFS, State Water Board and DFG, develop the following detailed environmental monitoring plans:
 1. Relief Reach Riparian 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.

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

- Provide Public Recreation Facilities - In consultation with the USFS, develop a detailed plan for implementing the work required to meet public recreation needs related to the Project.

State Water Board Measure for the Drawdown of Pinecrest Lake and Streamflows in Pinecrest and Philadelphia Reaches

When SPLAT was developing the measure for the Drawdown of Pinecrest Lake and Streamflows in Pinecrest and Philadelphia Reaches State Water Board staff stated that the proposed measure would not provide certainty that water quality standards will be protected. It is not always possible to evaluate all the impacts on beneficial uses of a future action. State Water Board staff developed the following alternative measure 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.

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 5610 feet, water releases during the period from the End of Spill¹ 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.

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

¹ 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.

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.

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 streamflows is the amount indicated, or the inflow to Pinecrest Lake plus accretion flows from Herring Creek, whichever is less.

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

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

¹The 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.

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 each year the Licensee shall develop and submit a Pinecrest Lake drawdown curve to USFS, DFG and TUD, and others that request such information.

Operation of Pinecrest Reservoir according to the requirements specified in this condition 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 FERC, USFS, Deputy Director, DFG, TUD, and others that request such notification, labeling the notification "Compliance Item, Immediate Attention Requested".

In Dry and Critically Dry water years, or in other years when Strawberry Dam is forecast not to spill, the Licensee may propose modifications to the requirements of this condition. If such modifications are proposed, the Licensee shall consult with the USFS, Deputy Director, DFG, TUD, and others who request such consultation as to the justification for the proposed modifications. This consultation shall be combined with Dry and Critically Dry water year consultation for other Project-affected reaches, if applicable. The Licensee shall maintain the minimum streamflows specified for Dry water year conditions until any such modifications are approved by the Deputy Director and FERC.

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.

The target elevation of 5610 feet at Labor Day may be modified and reduced to not lower than 5608 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.

7.2 US Forest Service 4(e) Conditions

Pursuant to Section 4(e) of the Federal Power Act, the Secretary of Agriculture, acting by and through the USFS, recommended conditions necessary for the adequate protection and utilization of the land and resources of the STF. These conditions are consistent with the SPLAT recommendations, but contain additional measures as follows:

- **Settlement Agreement** - The USFS reserves the authority to add to, delete from, or modify the final Section 4(e) terms and conditions in the event that the Licensee, the USFS 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.

USFS and Licensee have been negotiating a draft Recreation Settlement Agreement (DRSA) relating to USFS facilities that are currently outside the Project boundary. The DRSA essentially contemplates rehabilitating and rebuilding certain USFS facilities on a cost sharing basis between USFS 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 USFS and the Licensee and filed with FERC. Any disagreements between the USFS 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.

- **Modification of 4(e) Conditions after Biological Opinion or Water Quality Certification** - The USFS reserves the right to modify these conditions, if necessary, to respond to any Final Biological Opinion issued for this Project by the USFWS; or any Certification issued for this Project by the State Water Board.
- **Forest Service Approval of Final Design** - Before any new construction of the Project occurs on STF lands, the Licensee shall obtain prior written approval of the USFS for all final design plans for Project components, which the USFS deems as affecting or potentially affecting, STF resources.
- **Approval of Changes** - Notwithstanding any FERC approval or license provisions to make changes to the Project, the Licensee shall get written approval from the USFS 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 FERC.
- **Consultation** - Each year between March 15 and April 15, the Licensee shall consult with the USFS on measures needed to ensure protection and utilization of the STF resources affected by the Project.
- **Surrender of License or Transfer of Ownership** - Prior to any surrender of this license, the Licensee shall provide assurance acceptable to the USFS that the Licensee shall restore STF resources to a condition satisfactory to the USFS upon or after surrender of the license, as appropriate.
- **Hazardous Substances Plan** - The Licensee shall file with FERC a plan approved by the USFS for hazardous substances storage and spill prevention and cleanup for Project facilities on or affecting STF lands.
- **Use of Explosives** - Use of explosives shall be consistent with state and local requirements.
- **Fire Prevention, Response and Investigation** - The Licensee shall file with FERC a Fire Management and Response Plan that is approved by the USFS, and developed in consultation with appropriate State and local fire agencies.

- **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 STF lands or resources and shall have the right to extend rights and privileges of use of such road to state 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.
- **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.
- **Maintenance of Improvements** – The Licensee shall maintain all improvements and premises on STF lands to standards of repair, orderliness, neatness, sanitation, and safety acceptable to the USFS.
- **Safety During Project Construction** - Sixty days prior to ground-disturbing activity related to new Project construction on or affecting STF lands, the Licensee shall file a Safety During Construction Plan with FERC that is approved by the USFS that identifies potential hazard areas and measures necessary to protect public safety.
- **Pesticide Use Restrictions** - Pesticides may not be used to control undesirable woody and herbaceous vegetation, aquatic plants, fish, insects, and rodents on STF lands without the prior written approval of the USFS.
- **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 STF lands (including but not limited to the planned recreation-related construction), the Licensee shall file with FERC an Erosion Control Measures Plan that is approved by the USFS.
- **Valid Claims and Existing Rights** - This license is subject to all valid rights and claims of third parties.
- **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.

- **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.
- **Indemnification** – The Licensee shall indemnify, defend, and hold the United States harmless for any violations incurred under any such laws and regulations or for judgments, claims, or demands assessed against the United States in connection with the Licensee's use or occupancy authorized by this license.
- **Surveys, Land Corners** – The Licensee shall avoid disturbance to all public land survey monuments, private property corners, and forest boundary markers.
- **Damage to Land, Property and Interests of the United States** - The Licensee has an affirmative duty to protect the land, property, and interests of the United States from damage arising from occupancy and use of the license.
- **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.
- **Crossings** – The Licensee shall maintain existing crossings as required by the USFS for all roads and trails that intersect the right-of-way occupied by linear Project facilities (powerline, penstock, ditch, and pipeline).
- **Access** - The USFS reserves the right to use or permit others to use any part of the licensed area on STF lands for any purpose, provided such use does not interfere with the rights and privileges authorized by this license or the Federal Power Act.
- **Signs** – The Licensee shall consult with the USFS prior to erecting signs related to safety issues on STF lands covered by the license.
- **Fuel Treatment Plan** – The Licensee shall file with FERC a plan approved by the USFS for fuel treatment on or affecting STF lands.
- **Road Management Plan** – The Licensee shall file with FERC a plan approved by the USFS for management of all USFS and unclassified roads required by the Licensee to access the Project area.
- **Rights-of-Way** – The Licensee shall initiate the process to provide an easement to the USFS 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.

- **Recreation Facilities and Administration** – The Licensee shall file with FERC a Recreation Implementation Plan approved by the USFS.
- **Recreation Streamflow Information** – The Licensee shall annually make recreation streamflow information available to the public.
- **Heritage Resources** – The Licensee shall complete a Heritage Resources Management Plan (HRMP) that is approved by the USFS and file the HRMP with FERC.
- **Ramping Rate** – The Licensee shall 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 gauge 11293200 [PG&E gauge S-12 below Sand Bar Diversion Dam], USGS gauge 11292000 [PG&E gauge S-52 at Kennedy Meadows], USGS gauge 11296500 [PG&E gauge S-61 below Herring Creek], and USGS gauge 11297200 [PG&E gauge S-83 below Philadelphia Diversion Dam]) or at a different location if more representative of the stream channel configuration.
- **Water Year Types** - Each year in each of the months of February through May, the Licensee shall determine water-year type based on DWR's forecast for annual unimpaired inflow into New Melones Reservoir (as set forth in DWR's Bulletin 120 entitled Water Conditions in California).
- **Drawdown of Relief Reservoir and Streamflows in Relief Reach** – The Licensee shall 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 specified Operational Objectives.
- **Minimum Streamflows in Sand Bar Dam Reach** – The 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.
- **Drawdown of Pinecrest Lake and Streamflows in Pinecrest and Philadelphia Reaches** – The Licensee shall 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.
- **Spill Channel Management** – The Licensee shall file with FERC a Spill Channel Management Plan that is approved by the USFS 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).

- **Annual Employee Awareness Training** – The Licensee shall provide annual employee awareness training in coordination with the USFS. 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 USFS, and USFS orders that pertain to the STF lands in the vicinity of the Project.
- **Special Status Species** - In consultation with the USFS, the Licensee shall annually review the current list of special status plant and wildlife species (species that are Federal Endangered or Threatened, USFS Sensitive, or STF) that might occur within the Project Boundary. When a species is added to one or more of the lists, the USFS 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 USFS determines that the species is likely to occur, the Licensee shall develop and implement a study plan in consultation with the USFS to reasonably assess the effects of the Project on the species.
- **Ground Disturbing Activities** - If the Licensee proposes activities that were not specifically addressed in FERC's NEPA processes, the Licensee, in consultation with the USFS, 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.
- **Environmental Monitoring** - In consultation with the USFS, State Water Board and DFG, the Licensee shall develop the following detailed monitoring plans:
 1. Relief Reach Riparian 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 (FYLF) Monitoring in Sand Bar Dam Reach and Camp Nine Reach.
 5. Mountain Yellow-Legged Frog (MYLF) Monitoring in Relief Reach.
- **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 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. The Licensee shall continue to maintain and operate the Fish Ladder located at Philadelphia Diversion Dam.

- **Noxious Weed Management Plan** – The Licensee shall file with FERC a Noxious Weed Management Plan that is approved by the USFS, for the purpose of controlling and containing the Project-related spread of noxious weeds on STF lands, which might be related to the Licensee's activities.
- **Vegetation Management** – The Licensee shall file with FERC a plan approved by the USFS for vegetation management on or affecting STF 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 USFS'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.
- **Wildlife Management Plan** – The Licensee shall implement measures to maintain and enhance existing native wildlife species potentially affected by the Project.

8.0 References

- ECORP 2004. Results of 2003 Foothill Yellow-Legged Frog (*Rana boylei*) and Mountain Yellow-legged Frog (*Rana muscosa*) Studies at the Spring Gap-Stanislaus Project (FERC Project No. 2130). Report prepared for Pacific Gas and Electric Company. May 26, 2004.
- Nelson, J.R. 1994. Guidelines for Assessing Effects of Proposed Developments on Rare Plants and Plant Communities *in* California Native Plant Society, Inventory of Rare and Endangered Vascular Plants in California (Fifth Edition). California Native Plant Society, Sacramento, CA.
- Newcombe, C. P. 2003. Impact assessment model for clear water fishes exposed to excessively cloudy water. *Journal of the American Water Resources Association* 39: 529-544.
- Pacific Gas and Electric Company (PG&E). 2002a. Spring-Gap Stanislaus Project (FERC No. 2130) Application for New License, Volume III (Exhibit E-Aquatic Resources). December 2002.

PG&E and USFWS. 2003. Valley elderberry longhorn beetle conservation program. Pacific Gas and Electric Company and US Dept. of Interior, Fish and Wildlife Service. March 2003.

PG&E. 2006. Quality Assurance Program Plan (QAPP) for Projects Requiring Water Quality and/or Water Temperature Monitoring. QAPP Report No. 026.11.06.12 Version 1, Revision Date February 23, 2006.

Taylor, R.N, M. Love. 2003. Part IX. Fish Passage Evaluation at Stream Crossings. Published as a supplement to: California Salmonid Stream Restoration Handbook (Third Edition). G. Flosi, S. Downie, J. Hopelain, M. Bird, R. Coey, B. Collins. State of California, Department of Fish and Game, Sacramento CA. <http://www.dfg.ca.gov/nafwb/manual.html>

9.0 ENVIRONMENTAL CHECKLIST AND ANALYSIS

9.1 Introduction

1. Project Title: Spring Gap-Stanislaus Project, FERC Project No. 2130

2. Lead Agency Name and Address:

State Water Resources Control Board
Division of Water Rights
1001 "I" Street
Sacramento, California 95814

3. Contact Person and Phone Number:

Russ Kanz
Stream Water Quality Specialist
(916) 341-5341

4. Project Location:

The Spring Gap-Stanislaus Project is located in the Sierra Nevada Mountain Range. Project features range in elevation from about 7,300 feet at Relief Reservoir to 1,000 feet at Stanislaus Powerhouse. The Project consists of four developments: (1) Relief Development; (2) Strawberry Development (Pinecrest Lake); (3) Spring Gap Development, with its Project features located on the South Fork Stanislaus River and Middle Fork Stanislaus River; and (4) the Stanislaus Development located on the Middle Fork Stanislaus River and Stanislaus River. In general, the development located on the South Fork Stanislaus River can be characterized as a near urban setting to primitive. The setting of the Middle Fork Stanislaus River development can be characterized as primitive to wilderness.

Access to the upper regions of the Project is via State Highway 108 (Sonora Pass) and a series of USFS maintained dirt roads. Access to the lower regions is via Highway 49 and Camp Nine Road.

5. Project Sponsor's Name and Address:

Pacific Gas and Electric Company
Mail Code N 11 C
Post Office Box 770000
San Francisco, California 94177

6. General Plan Designation: N/A

7. Zoning: N/A

8. Description of Project:

PG&E is proposing to continue to operate the Spring Gap-Stanislaus Project as it has historically been operated, but with modified streamflow regimes, modified reservoir operations, and other environmental measures detailed in Section 2.6 Environmental Measures. PG&E also intends to remove the Stanislaus Afterbay Dam and construct and operate a fish screen at the intake to the Stanislaus Power Tunnel.

9. Surrounding Land Use and Setting:

The majority of the Project is within the Stanislaus Forest.

10. Other Public Agencies Whose Approval is Required:

Federal Agencies

Federal Energy Regulatory Commission-- Issuance of a new license

U.S. Forest Service - Section 4(e) of the Federal Power Act

U.S. Army Corps of Engineers - Section 404 of the Clean Water Act,
Department of the Army Permit, if necessary

Bureau of Land Management - Approval of removal of the Stanislaus Afterbay
Dam

State Agencies

State Water Resources Control Board - Section 401 of the Clean Water Act
Water Quality Certification; Water Rights Permit for power production

9.2 Environmental Factors Potentially Affected

The environmental factors checked below would be potentially affected by this Project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

	Aesthetics	Agricultural Resources	Air Quality
	Biological Resources	Cultural Resources	Geology/Soils
	Hazards & Hazardous Materials	Hydrology/Water Quality	Land Use/Planning
	Mineral Resources	Noise	Population Housing
	Public Services	Recreation	Transportation/Traffic
	Utilities/Service Systems	Mandatory Findings of Significance	

9.3 Determination (To be completed by the Lead Agency):

On the basis of this initial evaluation:

	I find that the proposed Project COULD NOT have a significant effect on the environment and a NEGATIVE DECLARATION will be prepared.
X	I find that although the proposed Project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the Project have been made by or agreed to by the Project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
	I find that the proposed Project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
	I find that the proposed Project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures in the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
	I find that although the proposed Project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable legal standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION,

including revisions or mitigation measures that are imposed upon the proposed Project, nothing further is required.

Victoria A Whitney
Signature

9-5-08
Date

Victoria A. Whitney
Deputy Director for Water Rights
State Water Resources Control Board

10 Evaluation of Environmental Impacts:

10.1 Introduction

In a CEQA analysis of an 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 current condition, do not register as significant. In contrast, 401 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.

10.2 Aesthetics

	Sources ¹	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
<i>Would the Project:</i>					
a. Have a substantial adverse effect on a scenic vista?	1, 6			X	
b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	1				X
c. Substantially degrade the existing visual character or quality of the site and its surroundings?	1			X	
d. Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?	1				X

- a. **Less-Than-Significant Impact.** PG&E has agreed to remove the partially breached steel and timber superstructure of the Stanislaus Afterbay Dam to enhance both aesthetics and safety of boaters in the Stanislaus River reach downstream of the Stanislaus Powerhouse. PG&E has also agreed to construct a fish screen at the intake to the Stanislaus Power Tunnel. These two construction activities would temporarily affect the scenic views of these two areas. These impacts would be considered less than significant.

¹ Sources are provided in Section 12 References.

- b. **No Impact.** There are no designated scenic highways that view the Project area.
- c. **Less-Than-Significant Impact.** See discussion under "a." above.
- d. **No Impact.** The Project would not create a new source of light or glare that would adversely affect day or nighttime views of the area.

10.3 Agricultural Resources

	Sources	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
In determining whether impacts to agricultural resources are environmentally significant, lead agencies may refer to the California Agricultural Land Evaluation Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. <i>Would the Project:</i>					
a. Convert Prime Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	1, 2, 3				X
b. Conflict with existing zoning for agricultural use, or a Williamson Act contract?	1, 2, 3				X
c. Involve other changes in the existing environment that, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?	1, 2, 3				X

- a. **Less-Than-Significant Impact.** Operation of the Project would not result in impacts to Prime Farmland or Farmland of Statewide Importance as there are none in the Project area.
- b. **Less-Than-Significant Impact.** The majority of the Project area is within the STF; therefore, there would be no conflict with existing zoning for agricultural use or a Williamson Act contract.

- c. **Less-Than-Significant Impact.** Operation of the Project would not involve other changes in the existing environment that, due to their location or nature, could result in conversion of Farmland, to non-agricultural use.

10.4 Air Quality

	Sources	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. <i>Would the Project:</i>					
a. Conflict with or obstruct implementation of the applicable air quality plan?	1				X
b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	1			X	
c. Result in cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	1			X	
d. Expose sensitive receptors to substantial pollutant concentrations?	1				X
e. Create objectionable odors affecting a substantial number of people?	1				X

- a. **No Impact.** A Project is deemed inconsistent with air quality plans if it would result in population and/or employment growth that exceeds growth estimates included in applicable air quality management plans. There would be no population and/or employment growth associated with the Project.
- b. **Less-Than-Significant Impact.** The CARB has designated Calaveras County as non-attainment for the state's PM₁₀ standard and the state's ozone standard. It has also designated Tuolumne County as non-attainment for the state's ozone standard.

In addition, EPA has designated both counties as non-attainment for the federal ozone standard. The relatively minor amount of incremental increases in exhaust emissions and dust resulting from construction activities related to removal of the Stanislaus Afterbay Dam, construction of the Stanislaus Tunnel fish screen and construction/rehabilitation of recreational facilities would be considered less than significant under any threshold criteria.

- c. **Less-Than-Significant Impact.** As stated above, construction activities associated with the Project would generate a minor amount of emissions; however, as shown above, these emissions would be considered less than significant under any threshold criteria.
- d. **No Impact.** No sensitive receptors would be exposed to substantial pollutant concentrations due to construction activities or operation of the Project.
- e. **No Impact.** Neither construction activities nor operation of the Project would create or cause objectionable odors.

10.5 Biological Resources

	Sources	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
<i>Would the Project:</i>					
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	1, 6			X	
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	1, 6			X	

	Sources	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
c. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	1				X
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	1, 6				X
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	1				X
f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional or state habitat conservation plan?	1				X

a. **Less-Than-Significant Impact.** Several special status species of amphibians and fish occur in the Project area, including mountain yellow-legged frog, foothill yellow-legged frog, California roach and hardhead. Continued Project operation would not result in any significant impacts to these or other aquatic resources. However, foothill yellow-legged frog will be monitored in the Sand Bar Dam Reach and the Camp Nine Reach, and hardhead will be monitored in the Sand Bar Dam Reach and the Camp Nine Reach by PG&E. This monitoring will allow an evaluation of the Project's specified streamflow regimes, or possibly also land management practices and their affects on these species or their habitats.

- b. Less-Than-Significant Impact.** Project operation would not result in any significant impacts to riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the DFG or the USFWS. In the Relief Reach, non-Project grazing practices and Project-regulated flows have both been cited as possible causes for erosion and lack of cottonwood regeneration observed within the Kennedy Meadows section. PG&E plans to prohibit any future staging or grazing of livestock on its property in Kennedy Meadows by its permittee or others to avoid potential impacts to riparian resources. The Project-regulated flow regime following construction of Relief Reservoir altered the low-flow period through this reach in the late summer. Flows during this period are now higher than they would be under unimpaired conditions. SPLAT proposed that a "best fit" drawdown curve for Relief Reservoir be developed for each year's hydrological conditions that will resemble the shape of the unimpaired hydrograph. The effectiveness of the streamflow regime on riparian vegetation restoration and streambank stabilization will be evaluated, along with the development and implementation of vegetation restoration and streambank stabilization measures.
- c. No Impact.** The Project would not have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act.
- d. No Impact.** Operation of the Project will not result in a change in the ability of fish and wildlife species to move or migrate.
- e. No Impact.** Operation of the Project will not conflict with any local policies or ordinances protecting biological resources.
- f. No Impact.** Operation of the Project will not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional or state habitat conservation plan.

10.6 Cultural Resources

	Sources	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
<i>Would the Project:</i>					
a. Cause a substantial adverse change in the significance of a historical resource as defined in § 15064.5?	1, 6				X
b. Cause a substantial adverse change in the significance of a archeological resource as defined in § 15064.5?	1, 6				X

c. Directly or indirectly destroy a unique paleontological resource or site or unique geological feature?	1				X
d. Disturb any human remains, including those interred outside of formal cemeteries?	1				X

- a. No Impact.** The Project area was used historically by Native Americans, and since the mid 1800s for development of timber, water supply, hydropower, and recreation. PG&E performed studies on American Indian culturally important areas and on cultural resources. The studies identified 42 cultural resource sites in the area of potential effect, consisting of 30 historic sites, 11 prehistoric sites, and one site with both prehistoric and historic components. None of the historic sites was found to be affected by Project operations.
- b. No Impact.** Operation of the Project will not result in ongoing impacts to archeological resources.
- c. No Impact.** Neither construction activities nor operation of the Project will directly or indirectly destroy a unique paleontological resource or site or unique geological feature.
- d. No Impact.** Neither construction activities nor operation of the Project will disturb any human remains.

10.7 Geology and Soils

	Sources	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
<i>Would the Project:</i>					
a. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:					
1. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on	4				X

	Sources	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.					
2. Strong seismic ground shaking?	4				X
3. Seismic-related ground failure, including liquefaction?	4				X
4. Landslides?	4				X
b. Result in substantial soil erosion or the loss of topsoil?	1		X		
c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	1				X
d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	1, 5				X
e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	1				X

a. **1. No Impact.** The Aliquist-Priolo Earthquake Fault Zoning Act identifies special study zones for areas where existing known faults are located. The purpose of the Act is to identify areas that may be limited to development and restrict development on or in close proximity to active faults. There are no Aliquist-Priolo faults in the immediate Project area.

- a. **2. No Impact.** The California Geological Survey has predicted ground motions (10% probability of being exceeded in 50 years) as a fraction of the acceleration due to gravity in the greater Project area. Based on those predictions, the peak ground acceleration in the Project area would be less than 10 percent of gravity.
- a. **3. No Impact.** The potential for liquefaction depends upon potential ground movement during seismic events, soil conditions, and depth to groundwater. The Project site does not contain soil conditions and groundwater depths conducive to liquefaction.
- a. **4. No Impact.** Operation of the Project will not create landslides.
- b. **Less Than Significant with Mitigation Incorporated.** Construction of the Stanislaus Power Tunnel Fish Screen and removal of the Stanislaus Afterbay Dam have the potential to result in substantial soil erosion or the loss of topsoil. Implementation of the following mitigation measure will reduce this impact to less than significant.

Mitigation Measure

PG&E shall prepare a plan to minimize soil erosion and loss of top soil for the review and approval of the Deputy Director for Water Rights 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 runoff during construction as needed.

- c. **No Impact.** The Project site is not located on a geologic unit or soil that is unstable or that would become unstable as a result of the Project and potentially result in an on-site or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse.
- d. **No Impact.** The Project site is not located on expansive soil as defined in Table 18-1-B of the Uniform Building Code.
- e. **No Impact.** Operation of the Project would have no effects on on-site wastewater disposal facilities.

10.8 Hazards and Hazardous Materials

	Sources	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
<i>Would the Project:</i>					
a. Create a significant hazard to the public or the environment through the routine transport, use or disposal of hazardous materials?	1, 6				X
b. Create a significant hazard to the public or the environment through reasonably upset accident conditions involving the release of hazardous materials into the environment?	1		X		
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	1				X
d. Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65963.5 and, as a result, would it create a significant hazard to the public or the environment?	1				X
e. For a Project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project result in a safety hazard for people residing or working in the Project area?	1				X
f. For a Project within the vicinity of a private airstrip, would the Project result in	1				X

	Sources	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a safety hazard for people residing or working in the Project area?					
g. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	1				X
h. Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	1				X

a. **No Impact.** The Project will not create a significant hazard to the public or the environment through the routine transport, use or disposal of hazardous materials

b. **Less-Than-Significant Impact with Mitigation Incorporated.**

Equipment used to construct the fish screen and demolish the afterbay dam would have the potential to release oils, grease, solvents and other finishing products through accidental spills. Sediments trapped behind the Stanislaus Afterbay could contain mercury, methylmercury, and silver. Removal of the sediments could release these materials to the river making them available for bioaccumulation in fish. However, adherence to the following mitigation measures would result in less-than-significant impacts.

Mitigation Measure

Material such as fuel (gasoline/diesel), hydraulic oil, and motor oil, will be used on the job site. Material Safety Data Sheets for all substances used on the job site will 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.

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:

- 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.
- 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.
- 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.

Mitigation Measure

Sediment samples will be collected for selected trace metal analysis for sediment deposited upstream of Stanislaus Afterbay Dam. Sediment samples will be collected to determine levels of metals listed below 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, such as an environmental soil probe, may be used to collect the samples. A composite of fine grained material at each station will be collected for analysis of 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 Water Rights for review and approval prior to removing the sediments.

- c. **No Impact.** There are no schools within one-quarter mile of the Project site.
- d. **No Impact.** Several standard environmental record services are available to determine the potential for recognized environmental conditions in an area.

According to those databases, the Project is not on a hazardous materials list compiled by the regulatory agencies.

- e. **No Impact.** The Project site is not within an airport land use plan area nor within two miles of a public airport or public use airport.
- f. **No Impact.** The Project site is not within the vicinity of private airstrip.
- g. **No Impact.** Implementation of the proposed Project would not physically interfere with an adopted emergency response plan or emergency evacuation plan.
- h. **No Impact.** The proposed Project would not expose people or structures to a significant risk of loss, injury, or death involving wildland fires.

10.9 Hydrology and Water Quality

	Sources	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
<i>Would the Project:</i>					
a. Violate any water quality standards or waste discharge requirements?	1,6		X		
b. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	1				X
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in substantial erosion or	1				X

	Sources	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
siltation on- or off-site?					
d. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site?	1				X
e. Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?	1				X
f. Otherwise substantially degrade water quality?	1				X
g. Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	1				X
h. Place within a 100-year flood hazard area structures that would impede or redirect flood flows?	1				X
i. Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	1			X	
j. Inundation by seiche, tsunami, or mudflow?	1				X

a. **Less-Than-Significant Impact with Mitigation Incorporated.** Construction of the Stanislaus Power Tunnel Fish Screen and Removal of the Stanislaus Afterbay Dam

could violate water quality standards or waste discharge requirements. The following Mitigation Measures will reduce the impact to less-than-significant.

Mitigation Measures

Prior to beginning construction of the Stanislaus Power Tunnel Fish Screen and removal of the Stanislaus Afterbay Dam. PG&E shall obtain all necessary permits. PG&E 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.

- b. **No Impact.** Operation of the Project would not substantially deplete groundwater supplies or interfere with groundwater recharge activities.
- c. **No Impact.** Operation of the Project would not substantially alter the drainage pattern of the site or area.
- d. **No Impact.** Operation of the Project would not substantially alter the drainage pattern of the site or area.
- e. **No Impact.** Operation of the Project would not create nor contribute runoff water that would exceed the capacity of drainage systems.
- f. **No Impact.** Operation of the Project would not otherwise substantially degrade water quality.
- g. **No Impact.** The Project does not include housing.
- h. **No Impact.** Operation of the Project would not place additional structures within a 100-year flood plain that would impede or redirect flood flows.
- i. **Less-Than-Significant Impact.** Operation of the Project could result in a risk to the public from dam failure. However, PG&E complies with all regulations and requirements, including FERC and California Division of Safety of Dams (DSOD) requirements for inspections and permits, and any recommended follow-up actions to ensure that the dams and their operations are safe. Compliance with these requirements reduces the potential impact to a less-than-significant level.
- j. **No Impact.** The proposed Project is not close to any existing water bodies that would be subject to seiches or tsunamis, or significant topography that would cause mud flows.

10.10 Land Use and Planning

	Sources	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
<i>Would the Project:</i>					
a. Physically divide an established community?					X
b. Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?					X
c. Conflict with any applicable habitat conservation plan or natural community conservation plan?					X

- a. **No Impact.** Operation of the Project would not physically divide an established community.
- b. **No Impact.** Operation of the Project would not conflict with any applicable land use plan, policy, or regulation of any agency with jurisdiction over the Project.
- c. **No Impact.** Operation of the Project would not conflict with any habitat conservation plan or natural community conservation plan adopted for the Project area.

10.11 Mineral Resources

	Sources	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
<i>Would the Project:</i>					
a. Result in the loss of availability of a known resource that would be of value to the region and the residents of the state?	1				X

	Sources	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b. Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	1, 2, 3				X

a. **No Impact.** Operation of the Project would not result in the loss of availability of a known resource that would be of value to the region and the residents of the state.

b. **No Impact.** There are no locally-important mineral resource recovery sites delineated on the general plans for the County of Calaveras or Tuolumne.

10.12 Noise

	Sources	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
<i>Would the Project:</i>					
a. Expose persons to or generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	1, 2, 3				X
b. Expose persons to or generate excessive groundbourne vibration or groundbourne noise levels?	1				X
c. Cause a substantial permanent increase in ambient noise levels above levels existing without the Project?	1				X
d. Cause a substantial temporary or periodic increase in noise levels in the Project vicinity above	1				X

	Sources	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
levels existing without the Project?					
e. For a Project located within an airport land use plan, or where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project expose people residing or working in the Project area to excessive noise levels?	1, 2, 3				X
f. For a Project within the vicinity of a private airstrip, would the Project expose people residing or working in the Project area to excessive noise levels?	1, 2, 3				X

- a. **No Impact.** Operation of the Project would have no effect on noise levels in the Project area over those that currently exist.
- b. **No Impact.** Construction activities associated with the Project could result in some minor amount of ground vibration. Vibration from construction activity is typically below the threshold of perception when the activity is more than 50 feet from receivers. Due to the fact that there are no receivers within 50 feet of the construction sites, there would be no groundbourne impacts.
- c. **No Impact.** Project operation would not result in a substantial permanent increase in ambient noise levels above levels existing without the Project.
- d. **No Impact.** The minor amount of noise associated with the construction activities (i.e, Stanislaus Tunnel fish screen, Stanislaus Afterbay Dam, and rehabilitation of recreational facilities) would be considered insignificant under any threshold criteria.
- e. **No Impact.** The Project is not within an airport land use area or within two miles of a public airport or public use airport.
- f. **No Impact.** The Project is not within the vicinity of a private airstrip.

10.13 Population and Housing

	Sources	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
<i>Would the Project:</i>					
a. Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	1				X
b. Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	1				X
c. Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	1				X

- a. **No Impact.** Operation of the Project would not induce substantial population growth in the area.
- b. **No Impact.** Operation of the Project would not displace any existing housing, necessitating the construction of replacement housing elsewhere.
- c. **No Impact.** Operation of the Project would not displace any people, necessitating the construction of replacement housing elsewhere.

10.14 Public Services

	Sources	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
<i>Would the Project:</i>					
a. Would the Project result in substantial adverse physical impacts					

	Sources	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:					
1. Fire Protection?	1				X
2. Police Protection?	1				X
3. Schools?	1				X
4. Parks?	1				X
5. Other Public Facilities?	1				X

- a. **1. No Impact.** Operation of the Project would not require additional fire protection services.
- a. **2. No Impact.** Operation of the Project would not require additional police protection services.
- a. **3. No Impact.** Operation of the Project would not require school services.
- a. **4. No Impact.** Operation of the Project would not require additional park services.
- a. **5. No Impact.** Operation of the Project would not require other public facilities.

10.15 Recreation

	Sources	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
<i>Would the Project:</i>					
a. Would the Project increase the use of existing	1, 6				X

	Sources	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?					
b. Does the Project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	1, 6			X	

a. **No Impact.** Operation of the Project would not increase the use of existing neighborhood and regional parks or other recreational facilities over that which presently exists.

b. **Less than Significant Impact.** PG&E has agreed to rehabilitate the recreational facilities around Pinecrest Lake. There should be no significant adverse effects on the environment from these minor construction activities.

10.16 Transportation/Traffic

	Sources	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
<i>Would the Project:</i>					
a. Cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system (i.e, result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections?)	1, 6			X	
b. Exceed, either individually or cumulatively, a level of service standard established by the county congestion management	1				X

	Sources	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
agency for designated roads or highways?					
c. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	1				X
d. Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	1				X
e. Result in inadequate emergency access?	1				X
f. Result in inadequate parking capacity?	1				X
g. Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	1				X

- a. Less than Significant Impact.** There will be a small increase in traffic during periods of construction of the new Stanislaus Tunnel fish screen, estimated at an additional 400 to 600 vehicle trips (up to 15 per day for 40 work days). The relatively minor incremental increases in traffic resulting from construction of the new Stanislaus Tunnel fish screen, removal of the Stanislaus Afterbay Dam, and construction/rehabilitation of recreational facilities, would be considered insignificant under any threshold criteria.
- b. No Impact.** Operation of the Project would not exceed, either individually or cumulatively, a level of service standard established by the County Congestion Management Agency for designated roads or highways.
- c. No Impact.** Operation of the Project would not result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.
- d. No Impact.** Operation of the Project would not substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

- e. **No Impact.** Operation of the Project would not result in inadequate emergency access.
- f. **No Impact.** Operation of the Project would not result in inadequate parking capacity.
- g. **No Impact.** Operation of the Project would not conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks).

10.17 Utilities and Service Systems

	Sources	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
<i>Would the Project:</i>					
a. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	1				X
b. Require or result in the construction of new water or wastewater treatment facilities, the construction of which could cause significant environmental effects?	1				X
c. Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	1				X
d. Have sufficient water supplies available to serve the Project from existing entitlements and resources, or are new or expanded entitlements needed?	1				X
e. Result in a determination by the wastewater treatment provider that serves or may serve the Project's Projected demand in addition to the provider's	1				X

	Sources	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
existing communities?					
f. Be served by a landfill with sufficient permitted capacity to accommodate the Project's solid waste disposal needs?	1				X
g. Comply with federal, state, and local statutes and regulations related to solid waste?	1				X

- a. **No Impact.** The Project does not generate any wastewater.
- b. **No Impact.** The Project does not require water or wastewater service.
- c. **No Impact.** The Project does not require storm water facilities.
- d. **No Impact.** The Project does not require consumptive water service.
- e. **No Impact.** The Project does not require wastewater service.
- f. **No Impact.** The Project does not require solid waste service.
- g. **No Impact.** The Project does not require solid waste service.

10.18 Mandatory Findings of Significance

	Sources	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
<i>Would the Project:</i>					
a. Does the Project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare	1, 6			X	

	Sources	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?					
b. Does the Project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a Project are considerable when viewed in connection with the effects of past Projects, the effects of other current Projects, and the effects of probable future Projects.)	1				X
c. Does the Project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	1				X

- a. **Less-Than-Significant Impact.** Based on the information contained in the above checklist, the Project does not have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory.
- b. **No Impact.** Based on the information presented in the above checklist, the Project does not have impacts that are individually limited, but cumulatively considerable.
- c. **No Impact.** The Project does not have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly.

11.0 PERSONS AND ORGANIZATIONS CONSULTED

For purposes of the overall FERC relicensing process for the Spring Gap-Stanislaus Project, PG&E and Tri-Dam Project cooperated and coordinated their respective FERC Project relicensings in the watershed, and jointly combined their public involvement and

collaborative processes for communications, consultations and exchanges of information among the Licensees, resource agencies, Indian Tribes, local public agencies, NGOs, and interested members of the public. The first consultation meeting took place on July 29, 1999, and the attendees at that meeting decided to collectively refer to the participants in the collaborative as the Stanislaus Planning Action Team, or SPLAT.

At the time that PG&E filed an application for new license for the Spring Gap-Stanislaus Project with FERC in December 2002, SPLAT or SPLAT subgroups had met more than 150 times, with almost 200 individuals participating in one or more meetings. Since the Application was filed, SPLAT has met more than 40 times in SPLAT or SPLAT subgroup meetings. In addition, and with SPLAT's approval, the Licensees met one-on-one with the USFS, to discuss recreation resource measures within the STF. Most SPLAT meetings were run by an independent facilitator since 2003, and typically between 15 and 25 people attended each meeting representing:

- California Department of Fish and Game
- Central Sierra Environmental Resources Center
- U.S. Forest Service
- Friends of the River (FOR)
- PG&E
- State Water Resources Control Board staff
- Tuolumne Utilities District
- Tri-Dam Project
- Trout Unlimited

Occasional participants included the U.S. Fish and Wildlife Service, National Park Service, and American Whitewater, among others.

In late 2003 and early 2004, SPLAT participants reached consensus on the Spring Gap-Stanislaus Project resource measures. The Spring Gap-Stanislaus Project SPLAT Recommended Resource Measures are the result of five years of work and negotiation by the SPLAT Participants.

12.0 REPORT AUTHORS/CONTRIBUTORS

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