

STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD

In the Matter of Water Quality Certification for

KEN WILLIS'
**FIRE MOUNTAIN LODGE HYDROELECTRIC PROJECT RELICENSING
AND DAM SAFETY REPAIRS**

FEDERAL ENERGY REGULATORY COMMISSION PROJECT NO. 1992

SOURCE: Fern Springs Creek

COUNTY: Tehama

WATER QUALITY CERTIFICATION FOR FEDERAL PERMIT OR LICENSE

BY THE EXECUTIVE DIRECTOR:

I. Background

Ken Willis (Applicant or Licensee) applied to the Federal Energy Regulatory Commission (FERC or Commission) for a new minor license for the existing Fire Mountain Lodge Hydroelectric Project (Project), FERC Project No. 1992, on April 25, 2008. The license expired on April 30, 2010, and the Project currently operates under annual licenses until a new license is issued by FERC. On October 24, 2007, FERC's Division of Dam Safety and Inspections issued a letter requiring the Applicant to repair the Project dam and install a spillway. This water quality certification covers the relicensing of the Project and the dam safety repairs ordered by FERC, collectively referred to as the Fire Mountain Lodge Hydroelectric Project Relicensing and Dam Safety Repairs.

In the past, pipes for passing water through the dam and to the penstock became plugged and the dam overtopped, eroding the crest and partially washing out the dam. Overtopping and dam failure events have led to uncontrolled flows and earthen dam material being carried to Fern Springs Creek below the reservoir. Sediment from these events can be transported downstream to Gurnsey Creek, a tributary to Deer Creek, which supports anadromous fish populations.

II. Fire Mountain Lodge Hydroelectric Project Relicensing and Dam Safety Repairs Description

Ken Willis owns and operates the Project, which is located in Tehama County within the Deer Creek Watershed near Highway 36. Maps of the Project are included as Attachment A of this certification. The Project impounds water that originates from an unnamed spring locally known as "Fern Springs" (Fern Springs) and a second unnamed spring (Unnamed Spring). The Project dam and reservoir are located on 1.03 acres of United States Forest Service (USFS) land in Lassen Volcanic National Forest and on 0.52 acre of private land owned by Collins Pine Company. The Project is located near Fire Mountain Lodge, a private resort that is located in

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the town of Mill Creek, south of Lassen Volcanic National Park, northwest of Plumas National Forest and west of Lake Almanor.

The Licensee holds Water Rights License No. 4976 (Application No. 012096) issued by the State Water Resources Control Board (State Water Board), Division of Water Rights for the diversion and use of water. License No. 4976 allows the license-holder to use up to, but not exceed, 3.0 cubic feet per second (cfs) of water from Fern Springs for power and domestic use year round.

The reservoir captures water from Fern Springs and another Unnamed Spring for which the Licensee does not hold a water right. Historically, in order to fill the reservoir or maintain reservoir levels adequate for power generation, the pipes that pass water through the dam have been intentionally partially or completely plugged eight to ten months of the year. During the remainder of the year when water diversion for power generation is not needed, the pipes are unplugged to let water pass through the dam. This certification includes conditions to ensure that an amount of water equivalent to the natural flow from the Unnamed Spring flows into Fern Springs Creek year round, and that a minimum of 1 cfs or the entire flow from Fern Springs if less than 1.0 cfs passes through the dam at all times.

In an unobstructed system, water from the Unnamed Spring joins with water from Fern Springs, to flow into Fern Springs Creek. Fern Springs Creek is a tributary to Gurnsey Creek; Gurnsey Creek is a tributary to Deer Creek; and Deer Creek is a tributary to the Sacramento River.

The existing Project consists of: (1) a 265-foot long by 29-foot high earth and concrete filled dam; (2) a 0.8-acre reservoir; (3) a 38-inch intake tower; (4) a 1,540-foot long penstock; (5) a powerhouse with an installed capacity of 60-kilowatts; (6) a 1,000-foot transmission line; and (7) appurtenant facilities. The power generated by the Project is used for commercial and residential purposes, solely for the owners of the Fire Mountain Lodge, a self-provider of electricity.

The Licensee proposes to continue to operate the Project as it has historically been operated, with modifications and improvements to the dam. The modifications and improvements to the existing dam and installation of a concrete-lined open channel spillway are needed to prevent future dam breaches and protect against sediment releases. The Licensee will be required to comply with the conditions of this certification, which include stabilization of the adjacent Project road, installation of flow measurement devices, and minimum streamflow requirements.

Dam Repairs and Construction

Construction activities at the existing facilities involve the repair of the dam and outfall, and installation of an open channel spillway. Engineered fill will be used on the dam and the spillway, which will require that water be re-routed during construction. The spillway will be surfaced with concrete and grout. The spillway headwall will be placed near the reservoir's southeast high water mark. The elevation of the top of the dam is 4,768 feet and the spillway elevation is designed to be 4,763.53 feet.

Construction will be restricted to the top of the dam and the backside of the dam (downstream-side) above the high water mark. Construction is proposed to occur when the water level is lowest, typically in September and October. An excavator equipped with a thumb attachment will be used to create the spillway ramp and add grouted rip rap to the spillway ramp. Construction activities will be confined to upland and previously disturbed areas.

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The following activities will be implemented to minimize impacts from dam repair and construction:

- Placement of straw wattles, erosion control blankets or straw and tackifier in the area of ground disturbance to protect against erosion;
- Placement of silt fencing and mulch on all stockpiles prior to rainfall events;
- Mulch and seed (using weed-free, native plant species) all bare ground disturbed beyond the dam structure, with mulch to be applied at a rate of two (2) tons per acre;
- Place stockpiles away from natural drainage courses;
- Place construction materials off-ground where possible;
- Place straw wattles or rock check dams in the existing ditch flow line to reduce runoff velocity;
- Ensure immediate cleanup of construction debris;
- Schedule prompt pick-up of debris containers;
- Remove all Project-related debris and materials; and
- Install an energy dissipater at all discharge points.

The following precautionary measure will be implemented:

- If any archaeological discoveries other than the historic hydroelectric power system (e.g., human skeletal remains, culturally modified lithic materials, structural features, or historic artifacts) are made during ground disturbing activities, all such activities shall stop within a 100-foot radius of the discovery, and a qualified archaeologist shall be contacted immediately to determine the nature of the find, evaluate its significance, and if necessary, suggest preservation or avoidance measures.

Installation of Flow Measurement Devices

A Parshall flume (or similar flow gage) shall be installed to measure streamflows. The Licensee will be required to measure, document, and report: inflows from Fern Springs and the Unnamed Spring; flow releases into Fern Springs Creek from the Project dam, and all flows diverted for domestic and power use.

Project Road Stabilization

To limit erosion and prevent sediment from entering Gurnsey Creek, the Licensee will be required to stabilize and maintain the Project road that crosses Gurnsey Creek and leads to the Project dam. The Licensee will be required to develop a road stabilization and maintenance plan in consultation with State Water Board and USFS staff.

III. Regulatory Authority

Water Quality Certification

The Federal Clean Water Act (33 U.S.C. §§ 1251-1387) was enacted "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." (33 U.S.C. § 1251(a).)

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Section 401 of the Clean Water Act (33 U.S.C. § 1251 (g)) requires federal agencies to “co-operate with the State and local agencies to develop comprehensive solutions to prevent, reduce and eliminate pollution in concert with programs for managing water resources.”

Section 401 of the Clean Water Act (33 U.S.C. §1341) requires every applicant for a federal license or permit which may result in a discharge into navigable waters to provide the licensing or permitting federal agency with certification that the Project will be in compliance with specified provisions of the Clean Water Act, including water quality standards and implementation plans promulgated pursuant to Section 303 of the Clean Water Act (33 U.S.C. § 1313). Clean Water Act Section 401 directs the agency responsible for certification to prescribe effluent limitations and other limitations necessary to ensure compliance with the Clean Water Act and with any other appropriate requirement of state law. Section 401 further provides that state certification conditions shall become conditions of any federal license or permit for the Project. The State Water Board is the state agency responsible for such certification in California. (Wat. Code § 13160.) The State Water Board has delegated the issuance of water quality certifications to the Executive Director by regulation. (Cal. Code Regs., tit. 23, § 3838, subd. (a).)

The Licensee submitted an application for certification to the State Water Board on September 15, 2011. The Licensee simultaneously withdrew and resubmitted its certification application on August 16, 2012, and again on July 26, 2013. The State Water Board provided public notice of the application pursuant to California Code of Regulations, title 23, section 3858 by posting information describing the Project on the State Water Board’s website on November 22, 2011.

Water Code section 13383 provides the State Water Board with authority to “establish monitoring, inspection, entry, reporting, and record keeping requirements... and [require] other information as may reasonably be required” for activities subject to certification under Section 401 of the Clean Water Act that involve a diversion of water for beneficial use. The State Water Board delegated this authority to the Deputy Director for Water Rights (Deputy Director), as provided for in State Water Board Resolution No. 2012-0029. In the *Redelegation of Authorities Pursuant to Resolution No. 2012-0029* memo issued by the Deputy Director on July 6, 2012, this authority is redelegated to the Assistant Deputy Directors of the Division of Water Rights.

Water Quality Control Plans

The California Regional Water Quality Control Boards (Regional Water Boards) adopt, and the State Water Board approves, water quality control plans (basin plans) for each watershed basin in the State. The basin plans designate the beneficial uses of waters within each watershed basin, and water quality objectives designed to protect those uses pursuant to Section 303 of the Clean Water Act. (33 U.S.C. § 1313.) The beneficial uses together with the water quality objectives that are contained in the basin plans and state and federal anti-degradation requirements constitute State water quality standards.

The Central Valley Regional Water Quality Control Board (Central Valley Water Board) adopted and the State Water Board and the United States Environmental Protection Agency approved the *Water Quality Control Plan for the Sacramento River and San Joaquin River Basins* (Sacramento-San Joaquin Basin Plan). As specified in the Sacramento-San Joaquin Basin Plan, the beneficial uses of any specifically identified water body generally apply to its tributary streams; therefore in this case, the beneficial uses designated for Deer Creek apply. The Sacramento-San Joaquin Basin Plan identifies existing beneficial uses for Deer Creek as:

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municipal and domestic water supply; agriculture supply; water contact recreation and non-contact water recreation, including canoeing and rafting; warm freshwater habitat; cold freshwater habitat; cold water migration of aquatic organisms; wildlife habitat; and warm and cold spawning, reproduction, and/or early development.

California Environmental Quality Act

The State Water Board is the lead agency for the purpose of California Environmental Quality Act (CEQA) compliance. The State Water Board issued an Initial Study and Proposed Mitigated Negative Declaration (IS/MND) for the Fire Mountain Lodge Hydroelectric Project Relicensing and Dam Safety Repairs on December 6, 2012. No formal comments were received. The State Water Board issued a Recirculated IS/Proposed MND for the Fire Mountain Lodge Hydroelectric Project Relicensing and Dam Safety Repairs on July 17, 2013, to analyze potential impacts from the certification requirement (Condition 2) to install flow measurement devices in the creek(s). No formal comments were received on these documents.¹ The Mitigation Monitoring and Reporting Plan (MMRP) (Attachment B) provides the mitigation measures that are required to reduce impacts to a less-than-significant level. Compliance with the measures in the MMRP is required as a condition of approval of this certification. The State Water Board will file a Notice of Determination with the State Clearinghouse within five days from the issuance of this certification.

All documents and other information that constitute the public record for the Fire Mountain Lodge Hydroelectric Project and Dam Safety Repairs will be maintained by the Division of Water Rights and will be available for public review at the following address: State Water Board, Division of Water Rights, 1001 I Street, Sacramento, California 95814.

IV. Rationale and Findings

The existing Commission license for the Project does not contain any instream flow requirements for the channel downstream of the Project dam. The Project is located on a tributary to Deer Creek. The conditions required in this certification are needed to protect the beneficial uses of Deer Creek and its tributaries. Protection of the instream beneficial uses identified in the Sacramento-San Joaquin Basin Plan requires that adequate instream flows be maintained, as well as limitations on the discharge of sediment and other pollutants from point and non-point sources.

The collection of streamflow data, implementation of minimum streamflow requirements, and use of adaptive management to review and update streamflow requirements, if necessary, will protect the beneficial uses of Deer Creek and ensure that the amount of diversion does not exceed 3.0 cfs from Fern Springs. The requirement to provide bypass flows will maintain aquatic habitat connectivity in Fern Springs Creek between the Project dam and the confluence with Gurnsey Creek, and will protect the warm and cold freshwater habitat beneficial uses of Deer Creek and its tributaries. The requirement to monitor aquatic macroinvertebrates and conduct aquatic surveys of fish populations downstream of the Project dam will provide information regarding stream health and the status of the aquatic communities over the course of the new license term. The requirement to stabilize the Project road will reduce erosion and the potential for release of sediment into surface water.

¹ State Water Board staff had communications with several resource agencies regarding the draft water quality certification and draft CEQA document.

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ACCORDINGLY, BASED ON ITS INDEPENDENT REVIEW OF THE RECORD, THE STATE WATER RESOURCES CONTROL BOARD CERTIFIES THAT KEN WILLIS' FIRE MOUNTAIN LODGE HYDROELECTRIC PROJECT RELICENSING AND DAM SAFETY REPAIRS will comply with Sections 301, 302, 303, 306, and 307 of the Clean Water Act, and with applicable provisions of State law, if the Licensee complies with the following terms and conditions during the Project activities certified herein.

Conditions Applicable to FERC's Division of Dam Safety and Inspections Work:

Condition 1 Within 18 months of receiving FERC's Division of Dam Safety and Inspections authorization to perform work, the Licensee shall complete the repairs to the existing dam and outfall, and installation of the open channel spillway. If weather prohibits completion of the work within this timeframe, the Licensee shall request a time extension from the Deputy Director during the prescribed work period and provide notification to FERC's Division of Dam Safety and Inspections. The Licensee shall also comply with Conditions 5-33 of this certification.

Conditions Applicable to Fire Mountain Lodge Hydroelectric Project Relicensing:

Condition 2 Streamflow Requirements

(A) Collect Streamflow Data:

The Licensee shall install Parshall flumes (or similar flow gages) to measure streamflows associated with the Project and the Licensee's water rights. In consultation with the USFS and State Water Board staff, the Licensee shall develop a plan to measure, document, and report inflows from Fern Springs and the Unnamed Spring, flow releases into Fern Springs Creek from the Project dam, and all flows diverted for domestic and power use. The plan shall be submitted to the Deputy Director for review and approval within four months of license issuance. The Deputy Director may require modifications as part of the approval. Upon Deputy Director approval of the plan, the plan and its implementation shall become a condition of this certification.

Within two months after license issuance, the Licensee shall consult with the United States Army Corps of Engineers (ACE) to determine whether a Clean Water Act section 404 permit (404 permit) is needed for installation of flow measurement devices. The Licensee shall provide the State Water Board with documentation of consultation with the ACE. After license issuance and within six months of receiving either a 404 permit from the ACE or documentation from ACE that a permit is not required, the Licensee shall install flow measurement devices. If weather prohibits installation of the flow measurement devices within the required timeframe, the Licensee shall request a time extension from the Deputy Director during the prescribed installation period. Within three days of flow measurement device installation, the Licensee shall begin recording one instantaneous flow measurement per week.

The Licensee shall provide the Deputy Director with evidence that substantiates that the devices are functioning properly within one month of installation and every five years thereafter for the term of the license and any annual extensions. Evidence shall include current photographs of the system in place and a statement, signed by the Licensee, certifying that the system is calibrated as needed on a regular basis, and is operating as designed.

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Annually, by January 31 of each year following installation of the measurement devices, the Licensee shall submit to the Resource Agencies² and the State Water Board all flow measurement data and average monthly streamflow measurements (based on weekly measurements) reported in cfs for the locations identified below. The submittal shall include the measurement (in cfs), as well as the date, time and location of each streamflow measurement collected. The Licensee shall measure, document, and report the following streamflows:

1. Inflows from the reach of each spring which feeds the Project reservoir (i.e., Fern Springs and the Unnamed Spring);
2. Minimum streamflow releases into Fern Springs Creek from the Project dam;
3. Flows diverted for power use; and
4. Flows diverted from Fern Springs for the Licensee's domestic use.

If weekly flow measurements cannot be made for one month due to conditions beyond the control of the Licensee, the Licensee shall notify the Deputy Director in writing within seven days. This information shall also be reported annually with the flow measurement information to the Resource Agencies and the State Water Board. The Deputy Director may require the collection of additional streamflow data based on the Licensee's submittals.

(B) Minimum Streamflow Requirements:

Upon license issuance the Licensee shall bypass or pass-through all inflow from the Unnamed Spring into Fern Springs Creek. It is the Licensee's responsibility to maintain continuity of flow from the Unnamed Spring to Fern Springs Creek at all times, including prior to and while the flow measurement devices are installed. The minimum instream flow requirements for the Project are as follows:

1. **In all years and at all times**, the amount of water matching the flow (in cfs) entering the Project reservoir from the Unnamed Spring shall be released into Fern Springs Creek (between the Project dam and Gurnsey Creek confluence); and
2. The Licensee shall release flows from Fern Springs or the Project reservoir into Fern Springs Creek (between the Project dam and Gurnsey Creek confluence) as follows:
 - a. **In all years** (except those designated as "dry"³): All flows that exceed the Licensee's prescribed water right of 3.0 cfs (Water Rights License No. 4976; Application No. 012096); or
 - b. **In dry years**: 1.0 cfs or the entire flow from Fern Springs if less than 1.0 cfs, to establish and maintain water connectivity between Fern Springs Creek at the Project dam and its confluence with Gurnsey Creek.

² "Resource Agencies" refers to the National Marine Fisheries Service (NMFS), USFS, United States Fish and Wildlife Service (USFWS), and California Department of Fish and Wildlife.

³ Dry years are defined as years when the flow from Fern Springs that feeds the reservoir is less than 4.0 cfs.

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(C) Review and Adaptive Management for Minimum Streamflow Requirements:

Within three months following the initial two years of streamflow data collection pursuant to section A of Condition 2 above, the Licensee shall meet and consult with the Resource Agencies and State Water Board staff to discuss the adequacy of the minimum flow releases required in section B of Condition 2 to determine if any adjustments to the minimum streamflow requirements are needed.

If, based on the outcome of the consultation, the Resource Agencies and State Water Board staffs recommend adjustments to the minimum streamflow, the Licensee shall submit the recommended flow modification(s) to the Deputy Director for review and approval. The Deputy Director may require modifications as part of the approval. Upon receiving all necessary regulatory approvals, the Licensee shall submit a request to the Commission to adjust the minimum streamflow requirements in the license. The Licensee shall implement the new minimum streamflow requirements upon Commission approval.

Condition 3 Within the first year after license issuance and every five years thereafter for the term of the new license and any annual extensions, the Licensee shall conduct aquatic biological monitoring at a time of year agreed to by the Resource Agencies and the State Water Board, as follows:

- (A) For benthic macroinvertebrates (BMI), the Licensee shall follow the State Water Board's Surface Water Ambient Monitoring Program's (SWAMP) protocol or other current protocol (if approved by the Deputy Director) for monitoring BMI in Fern Springs Creek below the Project dam.
- (B) The Licensee shall conduct an aquatic survey of Fern Springs Creek, noting USFS aquatic special status species (e.g., cascade frogs) and salmonid species. This work may be conducted concurrently with the BMI monitoring outlined in Section A of Condition 3. The aquatic survey shall include electrofishing. Additionally, the aquatic survey shall evaluate and document changes to the Fern Springs Creek channel and riparian community. The Licensee shall confirm the current list of USFS aquatic special status species with the USFS prior to the initial and each five-year monitoring survey.

The Licensee shall provide the results of the monitoring required in this condition to the Deputy Director within four months of completion of the monitoring. The data shall also be provided in accordance with Condition 20.

Condition 4 To limit erosion and prevent sediment from entering Gurnsey Creek, the Licensee shall stabilize and maintain all portions of the Project road on any lands. The Project road is the road that crosses Gurnsey Creek and leads to the Project dam. Within nine months of license issuance, the Licensee shall file a road stabilization and maintenance plan (Road Plan) with the Deputy Director for approval. The Deputy Director may require modifications as part of the approval.

The Road Plan shall describe the measures that will be taken to stabilize and maintain the Project road. The Road Plan shall be consistent with the USFS's Maintenance of Roads: Practice 2-22 in Attachment 1a to USFS's *Final §4(e) License Terms and Conditions and §10(a) Recommendation*. The Road Plan shall include measures to repair existing damage and minimize erosion from the Project road. At a minimum, the Road Plan shall include

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disconnecting road sediment sources to Gurnsey creek and implementing erosion control measures, such as waterbars, filter strips, rolling dips, cross-drains, etc.

The Road Plan shall be developed in consultation with the USFS and State Water Board staff. The Licensee shall include with the Road Plan documentation of consultation with State Water Board staff and the USFS, copies of comments and recommendations made in connection with the Road Plan, and a description of how the Road Plan accommodates the comments and recommendations of the USFS and State Water Board staff. The Licensee shall allow a minimum of 45 days for the USFS and State Water Board staff to comment and make recommendations before filing the Road Plan with the Deputy Director for approval. Upon Deputy Director approval of the Road Plan, the plan and its implementation shall become a condition of this certification.

Within four months of Deputy Director approval of the Road Plan, the Licensee shall complete the road stabilization work. If weather prohibits road stabilization work within this timeframe, the Licensee shall request a time extension from the Deputy Director during the prescribed road stabilization work period and provide notification to the USFS. The Licensee shall report to the Deputy Director on the actions taken to stabilize the Project road within two months of road work completion.

Following completion of the initial road stabilization work, the Licensee shall perform ongoing maintenance of the Project road to limit erosion and prevent sediment from entering Gurnsey Creek. The Licensee shall implement the Road Plan when performing road maintenance work. Any updates to the Road Plan necessary to perform maintenance work shall be submitted and approved by the Deputy Director prior to implementation. The Licensee shall perform the necessary stabilization or maintenance activities as needed, but no less than every five years for the term of the license and any annual extensions. The Licensee shall report on these road maintenance activities to the Deputy Director no less than every five years and whenever stabilization or maintenance activities are performed.

Condition 5 The Licensee shall ensure that exclusion fencing is used to fence off aquatic habitats prior to any construction activities.

Condition 6 All best management practices described in the application for certification and supplemental information are hereby incorporated by reference and are conditions of approval of this certification. Notwithstanding any more specific conditions in this certification, the Licensee shall comply with all measures described in the application for certification and its supplements, and the attached MMRP.

Condition 7 Project activities shall not cause an increase in turbidity downstream of the Project area greater than those identified in the Sacramento-San Joaquin Basin Plan. Waters shall be free of changes in turbidity (due to Project activities) that cause nuisance or adversely affect beneficial uses. Except for in-water work, as discussed at the end of this condition, increases in turbidity shall not exceed background levels (natural turbidity measured Nephelometric Turbidity Units [NTUs] prior to the start of Project activities) by more than the thresholds identified below and as outlined in the Sacramento-San Joaquin Basin Plan:

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Background Level or Natural Turbidity	Downstream Turbidity (after starting construction)
Less than 1 NTU	Total turbidity shall not exceed 2 NTU
Between 1 and 5 NTU	Increases shall not exceed 1 NTU
Between 5 and 50 NTU	Increases shall not exceed 20 percent
Between 50 and 100 NTU	Increases shall not exceed 10 NTUs
Greater than 100 NTU	Increases shall not exceed 10 percent

Monitoring shall be conducted immediately upstream outside the influence of the Project and 300 feet downstream from the active work area. Monitoring results shall be reported to the Deputy Director within two weeks of initiation of monitoring and every two weeks thereafter for the remainder of construction activities. Monitoring shall occur every four hours during Project construction. Throughout construction, the Licensee shall also monitor whenever activities result in the creation of a visible plume in surface waters. If monitoring shows that turbidity has exceeded the water quality objective, construction shall cease and the violation shall be reported within 24 hours to the Deputy Director and the Executive Officer for the Central Valley Water Board (Executive Officer). Construction may not re-commence without the permission of the Deputy Director.

Standard turbidity limits may be eased during in-water working periods to allow a turbidity increase of up to 15 NTU over the background turbidity as measured in surface waters 300 feet downstream from the working area. For in-water working periods, turbidity shall not exceed 15 NTU over background turbidity.

Condition 8 Control measures for erosion, excessive sedimentation and turbidity shall be implemented and be in place at commencement of, during and after any ground clearing activities, excavation, or any other Project activities that could result in erosion or sediment discharges to surface waters. Erosion control blankets, liners with berms, and/or other erosion control measures shall be used for any stockpile of excavated material to control runoff resulting from precipitation, and prevent material from contacting or entering surface waters.

Condition 9 The Licensee shall ensure that all required bypass flows and diversion(s) are consistent with the provisions outlined in Water Rights License No. 4976 (Application No. 012096) throughout the term of the new license and any annual extensions.

Condition 10 Construction materials, debris, spoils, soil, silt, sand, bark, slash, sawdust, rubbish, steel, other organic or earthen material, or any other substances which could be hazardous to aquatic life resulting from Project related activities shall be prevented from entering surface waters. All construction debris and trash shall be contained and regularly removed from the work area to the staging area during construction activities. Upon completion, all Project-generated debris, building materials, excess material, waste, and trash shall be removed from all the Project sites for disposal at an authorized landfill.

Condition 11 All imported riprap, rocks, and gravels used for construction shall be pre-washed. All wash water shall be contained and disposed of in compliance with State and local laws, ordinances, and regulations.

Condition 12 No unset cement, concrete, grout, damaged concrete, concrete spoils, and wash water used to clean concrete surfaces shall contact or enter surface waters. No leachate from

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truck or grout mixer cleaning stations shall percolate into Project area soils. Cleaning of concrete trucks or grout mixers shall be performed at a designated concrete washout area within the staging site. Washout water shall be held in a temporary pit or bermed area of sufficient volume to completely contain all liquid and waste concrete or grout generated during washout procedures. Hardened concrete or grout shall be disposed of at an authorized landfill, in compliance with State and local laws, ordinances and regulations.

Condition 13 All equipment must be washed prior to transport to the Project site and must be free of sediment, debris and foreign matter. Any maintenance or refueling of vehicles or equipment occurring on-site will be done in a designated area with secondary containment, located away from drainage courses to prevent the runoff of stormwater and the runoff of spills. All equipment using gas, oil, hydraulic fluid or other petroleum products shall be inspected for leaks prior to use and shall be monitored for leakage. Stationary equipment (e.g., motors, pumps, generator, etc.) and vehicles not in use shall be positioned over drip pans or other types of containment. Spill and containment equipment (e.g., oil spill booms, sorbent pads, etc.) shall be maintained onsite at all locations where such equipment is used or staged.

Condition 14 Onsite containment for storage of chemicals classified as hazardous shall be away from watercourses and include secondary containment and appropriate management as specified in California Code of Regulations, title 27, section 20320.

Condition 15 A copy of this certification shall be provided to the contractor and all subcontractors conducting the work, and copies shall remain in their possession at the Project site. The Licensee shall be responsible for work conducted by its contractor, subcontractors or other persons conducting Project-related work.

Condition 16 The Deputy Director and the Executive Officer shall be notified one week prior to the commencement of ground disturbing activities. Upon request, a construction schedule shall be provided to agency staff. The Licensee shall provide State Water Board staff access to Project sites to document compliance with this certification.

Condition 17 No construction shall commence until all necessary federal, state, and local approvals are obtained.

Condition 18 This certification requires compliance with all applicable requirements of the Sacramento-San Joaquin Basin Plan. The Licensee must notify the Deputy Director and Executive Officer within 24 hours of any unauthorized discharge to surface waters.

Condition 19 Nothing in this certification shall be construed as State Water Board approval of the validity of any water rights, including pre-1914 claims. The State Water Board has separate authority under the Water Code to investigate and take enforcement action if necessary to prevent any unauthorized or threatened unauthorized diversions of water.

Condition 20 Unless otherwise specified in this certification or at the request of the State Water Board, data and/or reports must be submitted electronically in a format accepted by the State Water Board to facilitate the incorporation of this information into public reports and the State Water Board's water quality database systems in compliance with California Water Code section 13167.

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Condition 21 Any requirement in this certification that refers to an agency whose authorities and responsibilities are transferred or subsumed by another state or federal agency shall apply equally to the successor agency.

Condition 22 The State Water Board's approval authority includes the authority to withhold approval or to require modification of a proposal or plan prior to approval. The State Water Board may take enforcement action if the Licensee fails to provide or implement a required plan in a timely manner.

Condition 23 The State Water Board reserves the authority to add to or modify the conditions of this certification: (1) if monitoring results indicate that continued operation of the Project could violate water quality objectives or impair the beneficial uses of Deer Creek and its tributaries; (2) to coordinate the operations of this Project and other hydrologically connected water development projects, where coordination of operations is reasonably necessary to achieve water quality standards or protect beneficial uses of water; (3) to implement any new or revised water quality standards and implementation plans adopted or approved pursuant to the Porter-Cologne Water Quality Control Act or Section 303 of the Clean Water Act; or (4) to incorporate changes in technology, sampling, or methodologies and/or load allocations developed in a total maximum daily load developed by the State Water Board or a Regional Water Quality Control Board.

Condition 24 This certification action is subject to modification or revocation upon administrative or judicial review, including review and amendment pursuant to California Water Code section 13330 and California Code of Regulations, title 23, division 3, chapter 28, article 6 (commencing with section 3867).

Condition 25 Future changes in climate projected to occur during the license term may significantly alter the baseline assumptions used to develop the conditions in this certification. The State Water Board reserves authority to modify or add conditions in this certification to require additional monitoring and/or other measures, as needed, to verify that Project operations meet water quality objectives and protect the beneficial uses assigned to the Project-affected stream reaches.

Condition 26 Notwithstanding any more specific conditions in this certification, the Project shall be operated in a manner consistent with all water quality standards and implementation plans adopted or approved pursuant to the Porter-Cologne Water Quality Control Act or Section 303 of the Clean Water Act.

Condition 27 Certification is conditioned upon total payment of any fee required under California Code of Regulations, title 23, division 3, chapter 28 and owed by the Applicant.

Condition 28 This certification does not authorize any act which results in the taking of a threatened, endangered or candidate species or any act which is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (ESA) (Fish & Game Code §§ 2050-2097) or the federal ESA (16 U.S.C. §§ 1531 - 1544). If a "take" will result from any act authorized under this certification or water rights held by the Licensee, the Licensee must obtain authorization for the take prior to any construction or operation of the portion of the Project that may result in a take. The Licensee is responsible for meeting all requirements of the applicable ESAs for the Project authorized under this certification.

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Condition 29 In the event of any violation or threatened violation of the conditions of this certification, the violation or threatened violation is subject to any remedies, penalties, process or sanctions as provided for under applicable state or federal law. For the purposes of Section 401(d) of the Clean Water Act, the applicability of any state law authorizing remedies, penalties, processes or sanctions for the violation or threatened violation constitutes a limitation necessary to ensure compliance with the water quality standards and other pertinent requirements incorporated into this certification.

Condition 30 In response to a suspected violation of any condition of this certification, the State Water Board may require the holder of any federal permit or license subject to this certification to furnish, under penalty of perjury, any technical or monitoring reports the State Water Board deems appropriate, provided that the burden, including costs, of the reports shall bear a reasonable relationship to the need for the reports and the benefits to be obtained from the reports. (Wat. Code, §§ 1051, 13165, 13267 and 13383.) The State Water Board may add to or modify the conditions of this certification as appropriate to ensure compliance.

Condition 31 The Licensee must submit any change to the Project, including Project operation that would have a significant or material effect on the findings, conclusions, or conditions of this certification, to the State Water Board for prior review and written approval. If such a change would also require submission to the FERC, the change must first be submitted and approved by the State Water Board. If the State Water Board is not notified of a significant change to the Project, it will be considered a violation of this certification.

Condition 32 Certification is not intended and shall not be construed to apply to any activity involving a hydroelectric facility and requiring a FERC license or an amendment to a FERC license unless the pertinent certification application was filed pursuant to California Code of Regulations, title 23, section 3855(b) and that application specifically identified that a FERC license or amendment to a FERC license for a hydroelectric facility was being sought.

Condition 33 The State Water Board will provide notice and an opportunity to be heard in exercising its authority to add or modify any of the conditions of this certification.



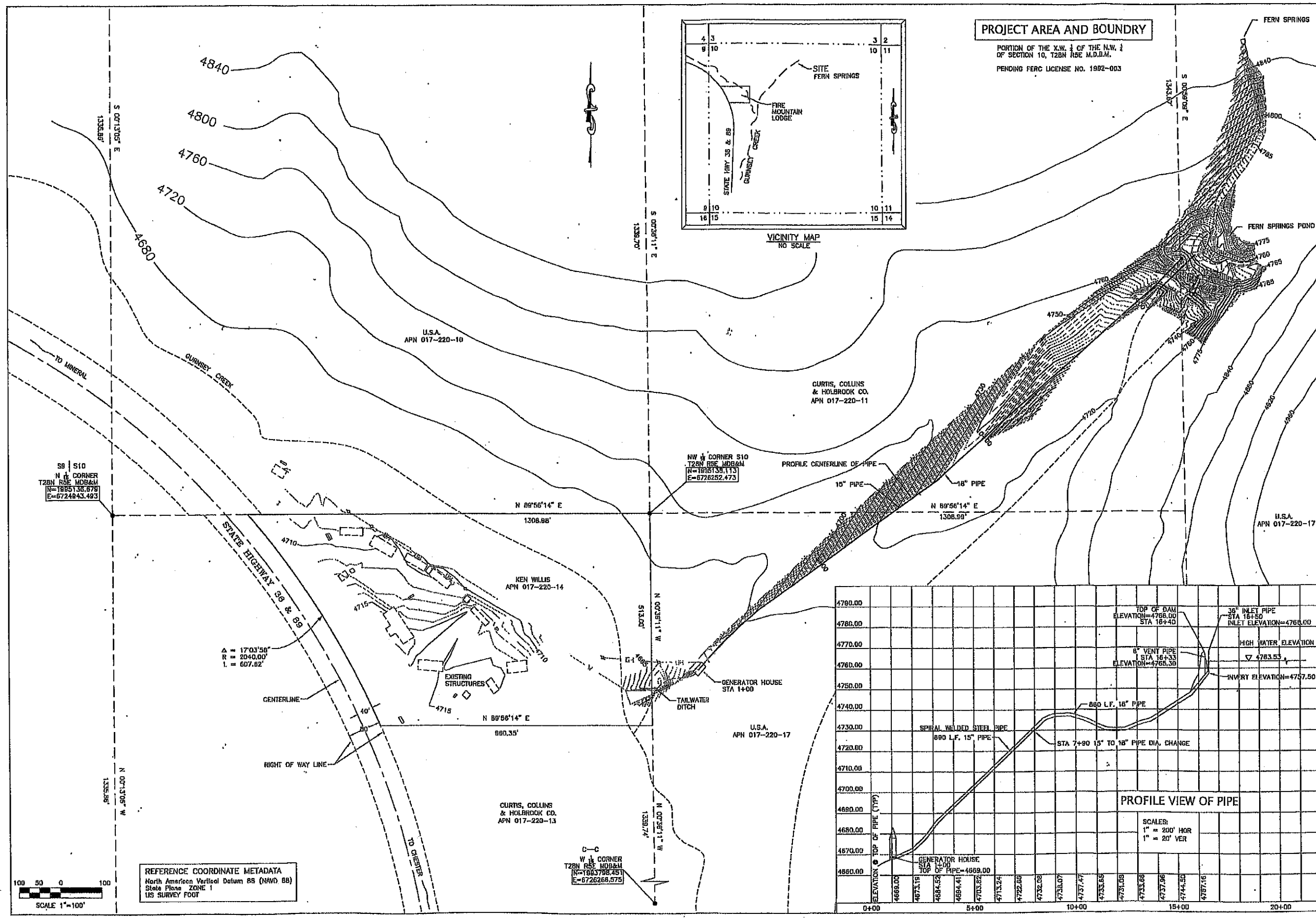
Thomas Howard
Executive Director



Date

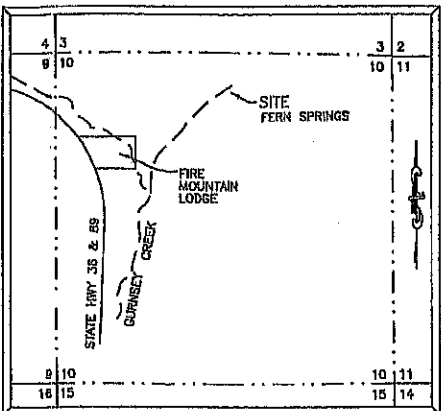
Attachment A: Figures 1 and 2 – Maps for Fire Mountain Lodge Hydroelectric Project Relicensing and Dam Safety Repairs (FERC Project No. 1992)

Attachment B: Mitigation Monitoring and Reporting Plan



PROJECT AREA AND BOUNDRY

PORTION OF THE S.W. 1/4 OF THE N.W. 1/4
OF SECTION 10, T28N R5E M.D.B.M.
PENDING FERC LICENSE NO. 1992-003



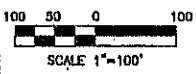
VICINITY MAP
NO SCALE

TRIGON
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trigonengineers.com



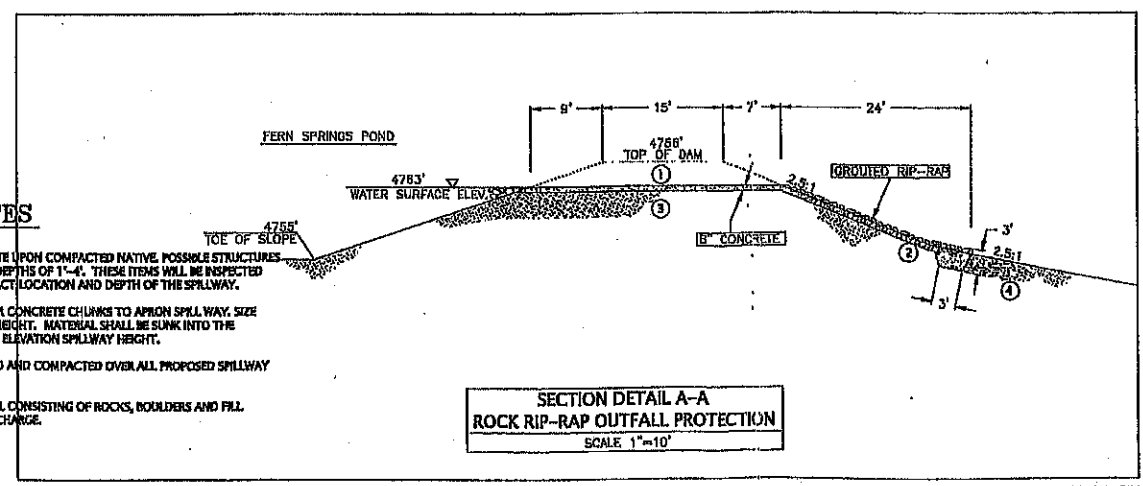
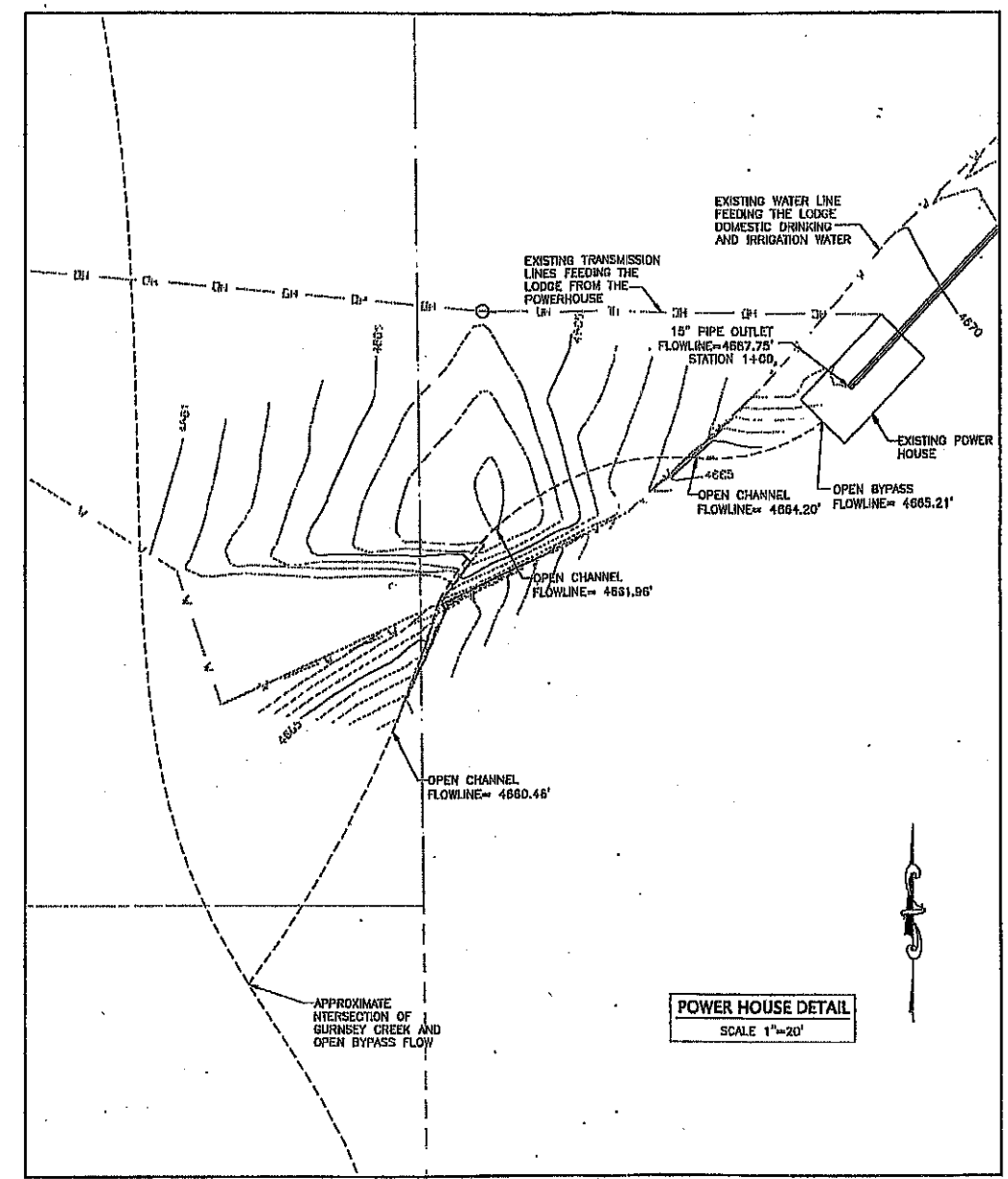
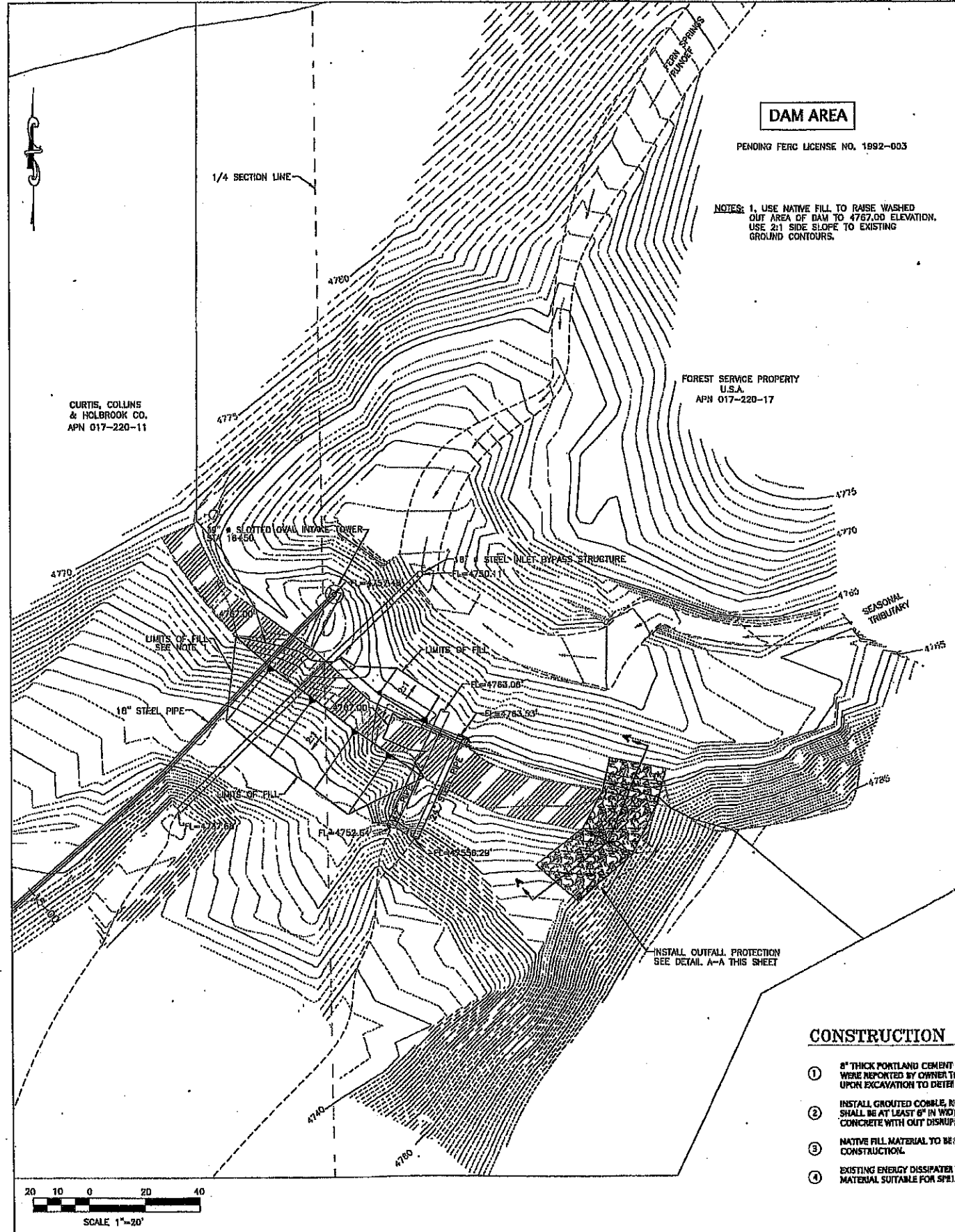
FIRE MOUNTAIN LODGE HYDROELECTRIC PROJECT
43500 HIGHWAY 36, MILL CREEK, CA 96061
FERC NO. 1992-003
EXHIBIT G

REFERENCE COORDINATE METADATA
North American Vertical Datum 88 (NAVD 88)
State Plane "ZONE 1"
US SURVEY FOOT



SCALES:
1" = 200' HOR
1" = 20' VER





CONSTRUCTION NOTES

- ① 8" THICK PORTLAND CEMENT CONCRETE UPON COMPACTED NATIVE. POSSIBLE STRUCTURES WERE REPORTED BY OWNER TO BE AT DEPTHS OF 1'-4'. THESE ITEMS WILL BE INSPECTED UPON EXCAVATION TO DETERMINE EXACT LOCATION AND DEPTH OF THE SPILLWAY.
- ② INSTALL GRADED COBBLE, RIP RAP, OR CONCRETE CHUNKS TO APRON SPILL WAY. SIZE SHALL BE AT LEAST 6" IN WIDTH AND HEIGHT. MATERIAL SHALL BE SUNK INTO THE CONCRETE WITH OUT DISRUPTING THE ELEVATION SPILLWAY HEIGHT.
- ③ NATIVE FILL MATERIAL TO BE SCRUBBED AND COMPACTED OVERALL PROPOSED SPILLWAY CONSTRUCTION.
- ④ EXISTING ENERGY DISSIPATER MATERIAL CONSISTING OF ROCKS, BOULDERS AND FILL MATERIAL SUITABLE FOR SPILLWAY DISCHARGE.

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43500 HIGHWAY 36, MILL CREEK, CA 96061
FERC NO. 1992-003 EXHIBIT F

F

11-29-2010

Attachment B
Mitigation Monitoring and Reporting Plan
Water Quality Certification for Federal Energy Regulatory Commission Project No. 1992
Fire Mountain Lodge Hydroelectric Project Relicensing and Dam Safety Repairs

The State Water Resources Control Board (State Water Board) is responsible for issuing the water quality certification (certification) for the Fire Mountain Lodge Hydroelectric Project Relicensing and Dam Safety Repairs. The State Water Board is the lead agency responsible for compliance with the California Environmental Quality Act (CEQA) (Pub. Resources Code, § 21000 et seq) for the Fire Mountain Lodge Hydroelectric Project Relicensing and Dam Safety Repairs. This Mitigation Monitoring and Reporting Plan (MMRP) has been prepared in conformance with Public Resources Code section 21081.6 and was developed based on the analysis of potentially significant impacts identified in the Initial Study/Mitigated Negative Declaration (IS/MND) developed for issuance of this certification.

The MMRP lists mitigation measures recommended in the IS/MND and specifies implementation and monitoring responsibilities. Pursuant to Public Resources Code section 21081.6, subdivision (b), each of the mitigation measures identified in the MMRP is included as enforceable measures in the certification. Implementation of mitigation measures is the sole responsibility of the Licensee.

CEQA prohibits an agency from approving a project for which significant effects have been identified, unless the agency can make one or more of a set of three findings set forth in Public Resources Code section 21081, subdivision (a):

- (1) Changes or alterations have been required in, or incorporated into, the project which mitigate or avoid the significant effects on the environment.
- (2) Those changes or alterations are within the responsibility and jurisdiction of another public agency and have been, or can and should be, adopted by that other agency.
- (3) Specific economic, legal, social, technological, or other considerations, including considerations for the provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or alternatives identified in the environmental impact report. (See also Cal. Code Regs., tit. 14, § 15091.)

The mitigation measures shown in the table below together with the conditions in the certification mitigate or avoid all significant impacts of the Fire Mountain Lodge Hydroelectric Project Relicensing and Dam Safety Repairs identified in the IS/MND. Changes or alterations have been required in, or incorporated into the Fire Mountain Lodge Hydroelectric Project Relicensing and Dam Safety Repairs which mitigate or avoid the significant effects on the environment.

Attachment B – Mitigation Monitoring and Reporting Plan
 Fire Mountain Lodge Hydroelectric Project Relicensing and Dam Safety Repairs Water Quality Certification
 Federal Energy Regulatory Commission Project No. 1992

Mitigation Measure ¹	Responsible Party	Timing	Monitoring
Biological Resources Mitigation Measure 1: The Licensee shall ensure that exclusion fencing be used to fence off aquatic habitats prior to any construction activities.	Licensee	Prior to and during construction activities	The Licensee shall submit a report that describes its compliance with the measures identified in this MMRP to the Deputy Director for Water Rights (Deputy Director) within 30 days of completion of construction.
Mitigation Measure 2: The Licensee shall ensure that a qualified biologist performs a pre-construction survey for special status plant and animal species within the immediate vicinity of the construction areas not more than seven days prior to initiation of ground disturbing construction activities. The qualified biologist may recommend protective species-specific measures. The Licensee shall ensure that any species-specific measures recommended by the qualified biologist are implemented.	Licensee	Prior to and during construction activities	The Licensee shall submit a report that describes its compliance with the measures identified in this MMRP to the Deputy Director within 30 days of completion of construction. The report shall include any species-specific measures recommended by the qualified biologist.
Mitigation Measure 3: The Licensee shall ensure that a qualified biologist conducts a pre-construction survey for nesting birds if Project construction is to begin during avian breeding season (February 1 through August 15). The Licensee shall ensure that a qualified biologist conducts a pre-construction survey not more than seven days prior to initiation of ground disturbing construction activities to confirm the presence or absence of active bird nests for special status species in the Project area. If active nests are encountered, the Licensee shall ensure that species-specific measures designed to protect reproductive success be prepared by a qualified biologist, and that these measures are implemented to prevent abandonment of the active nest(s). The Licensee shall ensure that the perimeter of any nest-setback zone(s), as determined by the qualified biologist, be fenced or adequately demarcated with staked flagging, and construction personnel and equipment be restricted from the area.	Licensee	Not more than seven days prior to ground disturbing construction activities, if construction activities are to occur during the nesting season (February 1 through August 15), and during construction if active special status species nests are encountered	The Licensee shall submit a report that describes its compliance with the measures identified in this MMRP to the Deputy Director within 30 days of completion of construction.
Mitigation Measure 4: The Licensee shall vegetate all disturbed soil with native species or seed with native grasses. If vegetation cannot be reestablished before expected rainfall, mulching, erosion control fabric, or other sediment control measures shall be implemented to prevent delivery of sediment to the drainages.	Licensee	After completing construction	The Licensee shall submit a report that describes its compliance with the measures identified in this MMRP to the Deputy Director within 30 days of completing construction.
Hydrology and Water Quality Mitigation Measure 5: All materials required to implement best management practices and mitigation measures shall be on-site and ready for timely deployment before the start of construction activities.	Licensee	Before construction activities	The Licensee shall submit a report that describes its compliance with the measures identified in this MMRP to the Deputy Director within 30 days of completing construction.

¹ For purposes of this certification and MMRP, installation of flow measurement devices constitutes a construction activity.

Attachment B – Mitigation Monitoring and Reporting Plan
 Fire Mountain Lodge Hydroelectric Project Relicensing and Dam Safety Repairs Water Quality Certification
 Federal Energy Regulatory Commission Project No. 1992

Mitigation Measure	Responsible Party	Timing	Monitoring
Mitigation Measure 6: The Licensee shall conduct construction activities when flows are lowest, typically during September and October.	Licensee	During construction activities	The Licensee shall submit a report that describes its compliance with the measures identified in this MMRP to the Deputy Director within 30 days of completing construction.
Mitigation Measure 7: The Licensee shall install all erosion control measures prior to construction periods and preferably by October 15. The Licensee shall maintain all erosion control measures throughout the construction period, including installation of flow measurement devices (e.g., weirs, flumes, etc.). Straw rolls and silt fences shall be placed around the proposed flow measurement device location during installation to prevent sediment from entering waterways. If needed, clean rock slope protection shall be installed in the streambed to reduce erosion. The Licensee shall remove temporary erosion and sediment control measures after disturbed areas are stabilized and work is completed.	Licensee	Prior to, during, and after construction periods for flow measurement device installation.	The Licensee shall submit a report that describes its compliance with the measures identified in this MMRP to the Deputy Director within 30 days of completing installation of flow measurement devices.
Mitigation Measure 8: All equipment shall be maintained in good working order and spill kits shall be on hand once equipment is onsite and throughout construction and cleanup activities. Fueling of equipment shall occur away from water courses, in bermed, lined areas to prevent potential spills from infiltrating groundwater and surface water. Hazardous materials shall be properly stored away from creeks in the Project area.	Licensee	At all times	The Licensee shall submit a report that describes its compliance with the measures identified in this MMRP to the Deputy Director within 30 days of completing construction.
Mitigation Measure 9: For cast in place structures, the area to receive wet concrete shall be completely bermed and isolated to contain any and all wet concrete, even if water is not present. The berm may be made of sandbags or soil, but the berm shall be lined with plastic to prevent the seepage of material outside the berm.	Licensee	During flow measurement device construction activities	The Licensee shall submit a report that describes its compliance with the measures identified in this MMRP to the Deputy Director within 30 days of completing installation of the flow measurement devices.
Mitigation Measure 10: Any surplus soil or construction material will be taken to an appropriate disposal site in accordance with applicable state and federal regulations, and shall not be deposited in or near any creeks.	Licensee	During and after construction activities	The Licensee shall submit a report that describes its compliance with the measures identified in this MMRP to the Deputy Director within 30 days of completing construction.
Mitigation Measure 11: The work area within the streambed and riparian zone shall be limited to the minimum area needed for installation of the flow measurement devices.	Licensee	Prior to and during flow measurement device installation	The Licensee shall submit a report that describes its compliance with the measures identified in this MMRP to the Deputy Director within 30 days of completing installation of the flow measurement devices.
Mitigation Measure 12: Use of soil stabilization materials that contain synthetic materials (e.g., plastic, nylon, etc.) within waters of the United States or waters of the State is prohibited.	Licensee	At all times	The Licensee shall submit a report that describes its compliance with the measures identified in this MMRP to the Deputy Director within 30 days of completing construction.

**Attachment B – Mitigation Monitoring and Reporting Plan
Fire Mountain Lodge Hydroelectric Project Relicensing and Dam Safety Repairs Water Quality Certification
Federal Energy Regulatory Commission Project No. 1992**

Mitigation Measure	Responsible Party	Timing	Monitoring
Mitigation Measure 13: Use of erosion control materials that contain synthetic (e.g., plastic or nylon) netting for permanent erosion control (i.e., to be left in place for longer than two years from the date of installation) is prohibited. Photodegradable synthetic products are not considered biodegradable and shall not be used. The Licensee shall remove any remaining synthetic netting or material no later than two years from the date of installation.	Licensee	At all times	The Licensee shall submit a report that describes its compliance with the measures identified in this MMRP to the Deputy Director within 30 days of completing construction, or within 26 months following installation if erosion control materials containing synthetic materials are installed.
Mitigation Measure 14: If erosion control netting or other products entrap or harm wildlife, the Licensee shall immediately remove the netting or product and replace it with wildlife-friendly biodegradable products. Similar erosion control netting or products shall also be removed and replaced elsewhere in the Fire Mountain Hydroelectric Project area within five days.	Licensee	During and after construction	The Licensee shall submit a report that describes its compliance with the measures identified in this MMRP to the Deputy Director within 30 days of completing construction.
Mitigation Measure 15: The Licensee shall prevent any debris, soil, silt, cement, oil, or other such foreign substance from entering into or being placed where it may be washed by rainfall runoff into adjacent waters. The Licensee may divert runoff to a settling area away from disturbed soil to prevent sediment from entering surface waters during and after construction, or filter runoff from disturbed areas to prevent sediment from entering surface waters during and after construction.	Licensee	During and after construction	The Licensee shall submit a report that describes its compliance with the measures identified in this MMRP to the Deputy Director within 30 days of completing construction.
Mitigation Measure 16: The Licensee shall enclose and cover exposed stockpiles of dirt or other loose, granular construction materials (e.g., gravel from pathway) that could contribute sediment load to waterways.	Licensee	At all times	The Licensee shall submit a report that describes its compliance with the measures identified in this MMRP to the Deputy Director within 30 days of completing construction.
Mitigation Measure 17: The Licensee shall remove all temporary fill and restore all temporarily affected streambed and riparian zones to pre-construction contours prior to completion of construction.	Licensee	During construction activities	The Licensee shall submit a report that describes its compliance with the measures identified in this MMRP to the Deputy Director within 30 days of completing construction.