

STATE OF CALIFORNIA  
STATE WATER RESOURCES CONTROL BOARD

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In the Matter of Water Quality Certification For  
**EL DORADO IRRIGATION DISTRICT**  
**EL DORADO HYDROELECTRIC PROJECT**

**FEDERAL ENERGY REGULATORY COMMISSION PROJECT NO. 184**

**SOURCES:** South Fork of the American River and Tributaries

**COUNTY:** El Dorado County, and parts of Alpine and Amador Counties

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**WATER QUALITY CERTIFICATION FOR FEDERAL PERMIT OR LICENSE**

BY THE EXECUTIVE DIRECTOR:

The **EL DORADO IRRIGATION DISTRICT** (EID) has applied to the Federal Energy Regulatory Commission (Commission) for a new license for the El Dorado Hydroelectric Project (Project 184).

**Project Background**

On February 22, 2000, EID filed an application for a new license with the Commission for the continued operation and maintenance of the existing 21-megawatt (MW) Project 184. Project 184 is located on the South Fork of the American River (SFAR) and its tributaries in El Dorado, Alpine, and Amador counties, California, and occupies private lands and federally owned lands administered by the El Dorado National Forest and the Lake Tahoe Basin Management Unit.

Portions of Project 184 were built from 1860 to 1876 for gold mining operations. After 1884, water from the project was used for industrial, irrigation, and domestic purposes in the Placerville area. Although the project was initially constructed to provide irrigation water, hydroelectric generation capability was added from 1922 to 1924. Hydroelectric operations began in 1924. EID purchased Project 184 from the Pacific Gas and Electric Company. On April 2, 1999, the Commission approved the transfer to EID of the federal license to operate Project 184, and on September 16, 1999, the California Public Utilities Commission approved the transfer to EID of project facilities and related assets, including water rights.

## **Project Description**

Project 184 stores water in Lake Aloha, Echo Lake, Caples Lake, and Silver Lake for release after the spring runoff. Water from these lakes flows into the SFAR via tributaries of the SFAR. (Figure 1)

Water flow in the SFAR is diverted by the El Dorado diversion dam into the El Dorado canal. Seven smaller streams that are tributaries of the SFAR (Alder Creek, Mill Creek, Bull Creek, Carpenter Creek, Ogilby Creek, Esmeralda Creek, No Name Creek) are each diverted into the El Dorado canal. Up to 15 cubic feet per second (cfs) are diverted from Alder Creek from December 1 through June 15 and up to 10 cfs are diverted from each of the remaining six creeks. Flows from these creeks in excess of that diverted to the El Dorado canal are returned to the creeks downstream of the diversions. Flows of up to approximately 165 cfs, which is the hydraulic capacity of the canal, are diverted from the SFAR, depending on the available inflow to the canal from the seven creeks. The canal provides water to the El Dorado forebay. At the El Dorado forebay, flows are divided between the El Dorado powerhouse and the intake for the District's irrigation canal. Flows that pass through the powerhouse pass through two single impulse turbines that are directly connected to two 11,500-kilowatt (kW) generators. Flows are then discharged back into the SFAR.

By order issued August 15, 2000, the Commission authorized the licensee to repair the diversion dam, which had been damaged by flood waters in 1997. The State Water Board issued a water quality certification for the repair of the dam. The District completed reconstruction of the diversion dam during the fall of 2001. In addition, the District replaced a damaged and unstable section of the El Dorado canal by constructing a 10,300-foot-long bypass tunnel from Mill Creek to Bull Creek. The State Water Board issued a water quality certification and the Commission authorized the construction of the Alder Creek tunnel which was completed during the fall of 2002.

## **Regulatory Background**

The Federal Clean Water Act (33 U.S.C. § 1251 et seq.) was enacted "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." (33 U.S.C. § 1251(a).) Section 401 of the Act (33 U.S.C. § 1341) requires every applicant for a federal license or permit to conduct any activity that may result in a discharge into navigable waters to obtain water quality certification. The State Water Board is the certifying agency in California. (Wat. Code, § 13160.)

In issuing water quality certification, the State Water Board certifies that the project will comply with specified provisions of the Clean Water Act, including water quality standards that are developed pursuant to state law and in satisfaction of section 303 of the Act (33 USC § 1313). The State Water Board may prescribe effluent limitations and other limitations necessary to ensure compliance with water quality standards and any other appropriate requirement of state law. (33 U.S.C. § 1341(d).) Conditions of certification become conditions of any federal license or permit for the project. (*Ibid.*)

The California Regional Water Quality Control Boards have adopted, and the State Water Board has approved, water quality control plans (basin plans) for each watershed basin pursuant to state law and in satisfaction of section 303 of the Clean Water Act (33 U.S.C. § 1313), which requires the states to establish water quality standards. Each basin plan designates the beneficial uses of the waters to be protected within a given region, establishes water quality objectives to protect those uses, and sets forth a program of implementation.

The Water Quality Control Plan for the Central Valley Region, Sacramento River and San Joaquin River Basins, and the Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary (basin plans) designate water quality objectives to protect beneficial uses of water in the Sacramento River basin, the American River basin, and the Bay-Delta Estuary.

The basin plan for the Central Valley-Sacramento/San Joaquin River Basins identifies the following beneficial uses for the South Fork of the American River and tributaries from its source to Placerville: municipal and domestic supply, hydropower generation, contact and non-contact recreation, canoeing and rafting, cold freshwater habitat, potential warm freshwater habitat, cold water spawning, and wildlife habitat. The basin plan identifies the following beneficial uses for the South Fork of the American River to Folsom Lake: municipal and domestic supply, irrigation, hydropower generation, contact and non-contact recreation, canoeing and rafting, cold freshwater habitat, warm freshwater habitat, and wildlife habitat. Folsom Lake listed beneficial uses are: municipal and domestic supply, irrigation, industrial service supply (potential beneficial use), hydropower generation, contact and non-contact recreation, cold freshwater habitat, warm water spawning, and wildlife habitat. From Folsom Dam to the Sacramento River the beneficial uses are: municipal and domestic supply, irrigation, industrial service supply, hydropower generation, contact recreation (canoeing and rafting), non-contact recreation, cold freshwater habitat, warm migration, cold migration, warm water spawning, cold water spawning and wildlife habitat. The applicable basin plan also contains salinity standards and river flow and delta outflow requirements to protect fisheries and water quality in the Bay-Delta Estuary.

Protection of the beneficial uses identified in the basin plans requires maintenance of adequate instream flows as well as effluent limitations and other limitations on discharges of pollutants or waste from point or nonpoint sources.

The State Water Board has delegated the authority to issue or deny water quality certification to the Executive Director. (Cal. Code Regs., tit. 23, § 3838, subd. (a).)

### **The Settlement Agreement**

On June 26, 2001, various parties agreed to engage in a public, collaborative process with the goal of executing a Settlement Agreement that would resolve outstanding issues for the project relicensing. On April 29, 2003, EID filed with the Commission the El Dorado Project, FERC Project No. 184, El Dorado Relicensing Settlement Agreement (Settlement) that contains recommended protection, mitigation, and enhancement

(PM&E) measures as proposed by the Settlement parties (Appendix A of the Commission's Final Environmental Impact Statement (EIS)). The purpose of the Settlement was to develop recommended PM&E measures as final Section 4(e) conditions, and for consideration as Section 401 certification conditions, and other mandatory license conditions to be included in a new license for the project. The Settlement addressed in part the following issues: flow regimes and lake levels of project-affected waters, water quality, channel stabilization, gaging and monitoring of project-affected waters, fish protective measures, wildlife and sensitive plant protective measures, noxious weed control, public information services, recreational enhancements, visual resource protection, road and trail access, and facility management. For the purposes of the final EIS, the proposed measures contained in the Settlement were to supersede the proposed measures provided by EID in the license application and subsequent filings prior to issuance of the Settlement, and, accordingly, the measures contained in the Settlement are incorporated as the proposed action in the final EIS.

In addition to the proposed PM&E measures to be included in the new license, the Settlement also includes measures agreed to among the parties but specifically requested not to be included in any license issued for the project. These measures include: definition of resource management objectives; definition of the role and responsibilities of a Ecological Resource Committee (ERC); access improvements along the SFAR that are located outside of the project area; periodic review of potential gaging improvements to monitor and gage flows in the system; and no alteration or elimination of the Oyster Creek leakage from Silver Lake, except for reasons of dam safety.

The parties to the Settlement included: EID; U.S. Forest Service (FS); U.S. Department of the Interior, National Park Service; California Department of Fish and Game (CDFG); Alpine County; Amador County; El Dorado County Water Agency; El Dorado Citizens for Water; Friends of the River (FOR); Trout Unlimited; Sierra Club; American Whitewater Affiliation (AW); Citizens for Water; AKT Development; and individuals Chris Shutes; Richard Wentzel; Alice Howard; and Paul Creger.

### **Basin Plan Compliance**

The Water Quality Control Plan for the Central Valley Region, Sacramento River and San Joaquin River Basins (1998) (Basin Plan) designates hydroelectric power generation as one of the beneficial uses of the SFAR and its tributaries, but operation of Project 184 without limitations has the potential to adversely affect other beneficial uses of the SFAR and its tributaries by altering the volume and timing of instream flows and by lowering water levels in project reservoirs. The Settlement Agreement includes measures designed to protect the beneficial uses of these waterbodies, which are included as conditions of this certification.

The State Water Board finds that implementing the minimum instream flows (Condition 1) and ramping rates (Condition 2) required by this certification will protect the fishery and other

The State Water Board finds that implementing the minimum instream flows (Condition 1) and ramping rates (Condition 2) required by this certification will protect the fishery and other aquatic biota below project reservoirs and stream diversions. This certification requires the restoration of instream flows to tributaries of the South Fork American River and the Upper Truckee River in the Tahoe Basin. In particular, instream flow requirements for Echo Creek, Carpenter Creek, No Name Creek, Mill Creek, Bull Creek, Ogilby Creek and Esmeralda Creek will restore flows in these streams, which under historic operations would have had no or little flow in many months in most years. The rewatering of these streams will restore and protect the instream beneficial uses that are in the public interest.

In addition, the instream flows will achieve water temperature objectives necessary to reasonably protect cold freshwater habitat for fish and wildlife beneficial uses. Adequate instream flows will also address general water quality objectives in the Basin Plan. This certification requires water quality monitoring of temperature and specified constituents to ensure that no impacts to water quality will occur as a result of project operations, including the new instream flow requirements (Conditions 14 and 15). EID will be required to monitor for bacterial contamination in concentrated recreation areas and report those findings to the State Water Board and the FS. The State Water Board will reserve authority to modify this certification to the extent necessary to ensure that water quality objectives will be met and beneficial uses will be protected.

Certification Conditions (5) Caples Lake Release and Flow Limitations and (8) Target Lake Levels and Minimum Pools will establish seasonal lake level targets, diversion limitations and various minimum pools for Project 184 lakes. These certification conditions will protect recreational beneficial uses of Echo Lake, Caples Lake, Silver Lake and Lake Aloha.

Under certain hydrological conditions, EID's diversions to storage for purposes of hydropower generation will contribute to the cumulative impact of water diversions on the beneficial uses of the Sacramento-San Joaquin Delta Estuary (Delta). For the reasons explained below, EID should be required to mitigate for this impact by not diverting for consumptive use water previously diverted to storage for purposes of hydropower generation if that water was diverted to storage at times when standard water right permit Term 91 would prohibit those diversions.

Term 91 provides in relevant part:

"No diversion is authorized by this permit when satisfaction of inbasin entitlements requires release of supplemental Project water by the Central Valley Project or the State Water Project.

a. Inbasin entitlements are defined as all rights to divert water from streams tributary to the Sacramento-San Joaquin Delta or the Delta for use within the respective basins of origin or the Legal Delta, unavoidable natural requirements for riparian habitat and conveyance losses, and flows required by the Board for maintenance of water quality and fish and wildlife. Export diversions and Project carriage water are specifically excluded from the definition of inbasin entitlements.

Put more simply, Term 91 prohibits diversions when natural and abandoned flows in the Delta and its tributaries are insufficient to meet water quality objectives in the Delta and other inbasin uses, and the State's two major water supply projects, the Central Valley Project and the State Water Project (the Projects), are supplementing natural and abandoned flows with imported or previously stored water in order to meet flow-dependent water quality objectives.

Term 91 was developed as a result of the responsibility that the State Water Board has placed on the Projects to curtail diversions or release stored water to the extent necessary to meet Delta water quality objectives. (SWRCB Order WR 2001-22, p. 8.) Term 91 protects the Projects from having to increase imports or release more stored water to compensate for diversions when natural and abandoned flows are already insufficient to meet water quality objectives and other inbasin uses. (*Ibid.*) Although Term 91 was developed for purposes of water right permitting, the term was designed to preserve flows necessary to meet water quality objectives, and therefore is an appropriate condition of water quality certification for a hydroelectric project located within the Delta watershed. By curtailing diversions when natural and abandoned flows are insufficient to meet water quality objectives, Term 91 precludes appropriators from interfering with the Projects' responsibility to meet those objectives. In practical effect, being subject to Term 91 requires an appropriator to share in meeting Delta water quality objectives. (SWRCB Decision 1594 (1984) pp. 34-36.)

The use of water for power or other non-consumptive purposes should not be subject to Term 91 unless the use alters the rate or quantity of the flow regime. (See SWRCB Decision 1594 (1984) p. 54-55.) In this case, EID's direct diversions of water from the South Fork American River for purposes of power generation do not significantly alter the rate or quantity of the flow regime in the Delta because all of the water diverted is returned to the SFAR except water lost due to evaporation and canal seepage. Accordingly, EID's direct diversions for purposes of power generation should not be subject to Term 91. EID's diversions to storage, on the other hand, would alter the flow regime in the Delta, but for the fact that the Projects compensate for EID's diversions under Term 91 conditions by increasing imports or releasing more stored water.

Although EID's diversions to storage will alter the flow regime, it is not necessary to subject those diversions to Term 91 at the time of the diversions, provided that EID releases the water for purposes of power generation later in the season, and does not redivert the water for consumptive use. The release of water later in the season will serve to compensate the Projects for the incremental increase in supplemental Project water that the Projects were required to import or release from storage in order to compensate for EID's diversions to storage during Term 91 conditions. The water released from storage in EID's reservoirs will either assist the Projects in meeting water quality objectives in the Delta later in the season, or the water will be available for storage in Folsom Reservoir, which is part of the Central Valley Project.

EID's releases from storage later in the season will not compensate the Projects for the impacts of EID's diversions during Term 91 conditions, however, if EID rediverts the water for consumptive use under EID's Permit No. 21112 (Application 5645B). Permit No. 21112 authorizes EID to redivert at Folsom Reservoir for purposes of irrigation, domestic use, and municipal use water previously used for power generation using Project 184 facilities.

For the reasons explained above, Permit No. 21112 should be limited in accordance with a modified version of Term 91. Moreover, imposing this requirement as a condition of this certification is consistent with the State Water Board's determination, in SWRCB Order WR 2001-22, that Permit No. 21112 should be subject to Term 91 because water is unavailable for appropriation under Permit No. 21112 under Term 91 conditions.

EID is challenging SWRCB Order WR 2001-22. Accordingly, the State Water Board will reserve jurisdiction to revise or rescind the modified Term 91 as may be reasonably necessary in response to the courts' resolution of that case.

In light of the conditions and limitations discussed above, the State Water Board finds that the beneficial uses of the SFAR and its tributaries will be reasonably protected if EID operates Project 184 consistent with this certification.

### **California Environmental Quality Act (CEQA) Compliance**

The California Environmental Quality Act (CEQA) (Pub. Resources Code § 21000 et seq.) encourages state and local agencies to use documents prepared pursuant to the National Environmental Policy Act (NEPA) to avoid duplication and costs if the NEPA document will be prepared before a CEQA document otherwise would be prepared and the NEPA document, in the judgment of the state agency, meets the requirements of CEQA. (Cal. Code Regs., tit. 14, § 15221.)

The Commission issued a draft Environmental Impact Statement (DEIS) for the relicensing of Project 184 pursuant to NEPA for public comment on or about March 7, 2003. The purpose of the DEIS was to describe the existing project and to disclose the impacts associated with EID's request to relicense Project 184, including various proposed operational and non-operational PM&E measures. A range of alternatives were analyzed in the DEIS.

The Commission issued a final EIS (FEIS) for the Project 184 in August of 2003. The FEIS evaluated the effects of a range of alternatives, including EID's proposal to operate the project in accordance with the Settlement Agreement described above. The FEIS did identify operational impacts to various resources.

Normally, an EIS does not contain a separate discussion of growth-inducing impacts because it is not required as a separate subject for analysis under NEPA. Where the EIS is used in the place of an EIR, the discussion of growth-inducing impacts should be added if necessary. As the CEQA lead agency, the State Water Board prepared a supplemental analysis of the potential growth inducing impacts resulting from the proposed relicensing of Project 184. The supplemental analysis disclosed that no significant growth inducing impacts would result from the relicensing of Project 184.

The supplement was circulated through the State Clearinghouse (SCH#2000094008) for agency 30-day review starting December 1, 2005. Notices of Availability of the CEQA supplement for public review were published in the Placerville and Sacramento newspapers on December 1,

The supplement was circulated through the State Clearinghouse (SCH#2000094008) for agency 30-day review starting December 1, 2005. Notices of Availability of the CEQA supplement for public review were published in the Placerville and Sacramento newspapers on December 1, 2005. Published notices also informed the public of the State Water Board's intention of using the Commission's FEIS in place of an EIR and taking action on the application for water quality certification. (See Cal. Code Regs., tit. 23, § 3858.)

Copies of the supplemental analysis were mailed to a known interested party list and the Commission interested party list. No public comments were received during the 30-day comment period and one comment was received from a state agency. The Division of Safety of Dams stated that it had no comments because no new construction of jurisdictional diversions was proposed. The State Clearinghouse notified the State Water Board on January 4, 2006 that it had complied with the review requirements pursuant to CEQA.

We find that the Commission circulated the DEIS and FEIS for agency and public review as broadly as State law requires and gave notice meeting the standards in section 15087, subdivision (a) of the CEQA Guidelines. Accordingly, recirculation of the FEIS was not required. (Cal. Code Regs., tit. 14, § 15225.)

The State Water Board finds that the FEIS with the supplemental analysis has been completed in compliance with CEQA. The State Water Board reviewed the FEIS and considered the information contained in the FEIS prior to approving this certification; and the FEIS reflects the lead agency's independent judgment and analysis.

The State Water Board will file a Notice of Determination in accordance with section 15094 of the CEQA Guidelines. Copies of the FEIS and supplemental analysis are located on the State Water Board's website and in its files, which are maintained by the Division of Water Rights, 1001 I Street, Sacramento, CA 95814 ([www.waterrights.ca.gov/FERC/ceqa\\_projects.html](http://www.waterrights.ca.gov/FERC/ceqa_projects.html)).

### **CEQA Findings**

In accordance with section 15090 of the CEQA Guidelines, the State Water Board has considered the FEIS prepared for this project by the Commission together with the supplemental analysis prepared by the State Water Board.

The FEIS identified a number of impacts that would result from operation of Project 184 as proposed by EID in accordance with the Settlement Agreement, but did not specify whether any of the impacts would be significant. The State Water Board finds that none of the impacts would be significant, with the possible exception of impacts caused by construction of recreational facilities and maintenance activities. For example, the Settlement Agreement provides for increased minimum flow releases, which could result in lower lake levels at Echo Lake, Caples Lake and Silver Lake during some months of some years. The FEIS also discloses that fall flow releases prescribed in the Settlement Agreement could result in erosion impacts to the channel below Caples Creek. These impacts would not be significant. Moreover, the impacts are outweighed by the benefit of higher flow releases to the water quality and aquatic habitat of the streams.



sensitive species. The FEIS states that these activities could also adversely affect water quality if appropriate Best Management Practices are not in place. The FEIS analyzes the potential effects of future construction and maintenance actions on a programmatic level because the final design of new facilities is not complete and the specific location of some of the facilities or future maintenance actions is unknown. Additional surveys and project-level reviews under CEQA and NEPA will be required.

Section 15090 (a)(2) of the CEQA Guidelines states that when changes or alterations are within the responsibility and jurisdiction of another public agency and not the agency making the finding, such changes should be adopted by the other agency or can and should be adopted by such other agency. The future project specific environmental reviews will be the responsibility of EID, the CEQA lead agency, or possibly the county within which the project would be constructed if on private or non federal lands, and/or the FS if facility construction or maintenance activities are on federal lands. If construction or maintenance could result in water quality impacts, EID would be required to obtain a National Pollutant Discharge Elimination System permit or file a waste discharge report with the Central Valley Regional Water Quality Control Board. The impacts of the construction of recreational facilities and other maintenance activities are potentially significant, but mitigation of those impacts is premature and within the primary responsibility of EID, the county, the FS, or the Regional Board. To the extent that future project-level environmental review discloses significant environmental impacts, those agencies can and should adopt any mitigation measures necessary to avoid or substantially lessen those impacts.

IN LIGHT OF THE FOREGOING, THE STATE WATER BOARD CERTIFIES THAT THE EL DORADO HYDROELECTRIC PROJECT (184) AS PROPOSED BY EID will comply with sections 301, 302, 303, 306 and 307 of the Clean Water Act (33 U.S.C. §§ 1311, 1312, 1313, 1316, & 1317), and with applicable provisions of state law, provided that EID complies with the following terms and conditions during the operation of the El Dorado Hydroelectric Project.

### **Project Specific Terms and Conditions:**

#### **1. Minimum Instream flow Requirements**

EID shall, beginning as early as reasonably practicable and no later than 3 months after license issuance, maintain minimum streamflows in Echo Creek below Echo Dam; Pyramid Creek below Lake Aloha; Caples Creek below Caples Dam; Silver Fork American River below Silver Lake Dam; South Fork American River (SFAR) below Kyburz Diversion; and Carpenter, No Name, Alder, Mill, Bull, Ogilby, and Esmeralda Creeks below their diversions at the El Dorado Canal, as specified in the following minimum streamflow schedules. All specified streamflows shall be measured as instantaneous flow in cubic feet per second (cfs). The schedules specify minimum streamflows, by month and water year type, for each of the specified stream reaches. Minimum streamflows for February through May shall begin on or before the 5th day of each month. In all other months, minimum streamflows shall begin by the 1st of the month.

The minimum instream flow schedules are separated into five water year types: Wet, Above Normal (AN), Below Normal (BN), Dry, and Critically Dry (CD). EID shall determine water year type based on the forecast of unimpaired inflow to Folsom Reservoir for the period of April through July, as set forth in Bulletin 120 (Water Conditions in California as published by the California Department of Water Resources) until an alternative forecasting tool is approved by the FS, ERC, Chief of the Division of Water Rights, and the Commission.

The Water Year Types are as follows:

Wet = greater than 125 percent of average<sup>1</sup>

AN = less than 125 percent but greater than or equal to 100 percent of average

BN = less than 100 percent but greater than or equal to 75 percent of average

Dry = less than 75 percent but greater than or equal to 50 percent of average

CD = less than 50 percent of average

Each February through May, EID shall operate for that month, beginning on or before the 5<sup>th</sup> day of these four months (February through May), after forecasting information is available, using a water year type designation for that month based on the Bulletin 120 forecast or the alternative forecasting tool that has been approved by, the Chief of the Division of Water Rights, following consultation with the FS, ERC. The May forecast shall be used to establish the final water year type for the remaining months of the year until the next February, when forecasting shall begin again. EID shall provide notice to the FS, ERC, the Chief of the Division of Water Rights and the Commission of the final water year type determination within 10 days of making the determination.

An exception to the operating rules in the previous paragraph shall be that a separate forecasting method for January and February, as described below shall be established within one year of license issuance. This forecasting method, once approved by the Chief of the Division of Water Rights, in consultation with FS and the ERC, shall govern the January and February operation of Caples Lake and the Kyburz Diversion Dam.

EID shall, within one year of license issuance, develop a forecasting method and associated operating plan that will be used to re-assess the water year type and to adjust minimum streamflows at Caples Lake Dam and Kyburz Diversion Dam during the months of January and February, in order to address lake levels at Caples Lake. The forecasting method shall be used to evaluate the water year type designations governing operations for January and February. The method and plan shall be approved by the Chief of the Division of Water Rights in consultation with the FS and the ERC prior to filing the method and plan with the Commission. Once approved by FERC, the licensee shall operate Caples Lake Dam and Kyburz Diversion Dam for the months of January and February, beginning on the 5<sup>th</sup> day of each of these months, based on the approved forecasting method and operating plan. The EID shall provide notice to the FS, ERC,

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<sup>1</sup> The water year type is based on the forecast of the average unimpaired inflow to Folsom Reservoir for the period of April through July based on the historical record, as set forth in Bulletin 120 (Water Conditions in California as published by the California Department of Water Resources).

and Chief of the Division of Water Rights of the water year type designation governing operations for January and for February within five days of making each determination. After February, the forecasting method shall be consistent with the method described in Water Year Types described above (using Bulletin 120 or duly approved alternate forecasting tool).

The minimum streamflows specified in the schedules may be temporarily modified if required by public safety, equipment malfunction or operating emergencies reasonably beyond the control of EID. If the streamflow is so modified, EID shall provide notice to the Chief of the Division of Water Rights, FS and the ERC, and as soon as possible, but no later than 10 days after such incident. The minimum streamflows specified below may also be temporarily modified for short periods in non-emergency situations five days after approval by the Chief of the Division of Water Rights in consultation with the FS and the ERC.

Where facility modification is required to maintain the specified minimum streamflows, EID shall complete such modification as soon as reasonably practicable and no later than three years after license issuance. Prior to such required facility modification, EID shall make a good faith effort to provide the specified minimum streamflows within the capabilities of the existing facilities.

In order for EID to adjust operations to meet the required minimum streamflows, EID shall have a three-year period after the license is issued or three years after completion of necessary facility modifications, whichever is later, in which daily mean streamflows may vary up to 10 percent below the amounts specified in the minimum streamflow schedules, provided that the average monthly streamflow in any given month equals or exceeds the required minimum amount for the month. After the applicable period, EID shall meet the minimum streamflow requirements specified in the minimum streamflow schedules.

**Minimum Instream Flow Schedules**

EID shall maintain in Echo Creek below Echo Lakes Dam the minimum streamflows specified in the following schedule, or the measured natural flow (NF), whichever is less. Compliance with this requirement shall be measured at the gaging station located downstream of the Echo Lake Dam (USGS Gage No. 10336608, EID Gage No. A-3).

**Echo Creek Below Echo Lakes Dam**

**Minimum Streamflow Release in cubic feet per second (cfs) or Natural Flow if less**

| Month | CD      | Dry     | BN      | AN      | Wet     |
|-------|---------|---------|---------|---------|---------|
| OCT   | 6 or NF | 6 or NF | 6 or NF | 6 or NF | 6 or NF |
| NOV   | 6 or NF | 6 or NF | 6 or NF | 6 or NF | 6 or NF |
| DEC   | 6 or NF | 6 or NF | 6 or NF | 6 or NF | 6 or NF |

|      |         |          |          |          |          |
|------|---------|----------|----------|----------|----------|
| JAN  | 6 or NF | 6 or NF  | 6 or NF  | 6 or NF  | 6 or NF  |
| FEB  | 6 or NF | 6 or NF  | 6 or NF  | 10 or NF | 10 or NF |
| MAR  | 6 or NF | 6 or NF  | 6 or NF  | 15 or NF | 15 or NF |
| APR  | 6 or NF | 10 or NF | 15 or NF | 25 or NF | 25 or NF |
| MAY  | 6 or NF | 15 or NF | 30 or NF | 45 or NF | 45 or NF |
| JUNE | 6 or NF | 15 or NF | 30 or NF | 40 or NF | 40 or NF |
| JULY | 6 or NF | 10 or NF | 15 or NF | 20 or NF | 20 or NF |
| AUG  | 6 or NF | 6 or NF  | 6 or NF  | 6 or NF  | 6 or NF  |
| SEPT | 6 or NF | 6 or NF  | 6 or NF  | 6 or NF  | 6 or NF  |

**Pyramid Creek Below Lake Aloha Dam**

EID shall maintain in Pyramid Creek below Lake Aloha Dam the minimum streamflows specified in the following schedule, or the natural flow, whichever is less. Compliance with this requirement shall be measured at the gaging station located near Highway 50 at Twin Bridges (USGS Gage No. 11435100, EID Gage No. A-40).

**Minimum Streamflow Release in cfs or Natural Flow if less**

| Month | CD      | Dry      | BN       | AN       | Wet      |
|-------|---------|----------|----------|----------|----------|
| OCT   | 1 or NF | 1 or NF  | 2 or NF  | 3 or NF  | 3 or NF  |
| NOV   | 1 or NF | 3 or NF  | 4 or NF  | 5 or NF  | 5 or NF  |
| DEC   | 2 or NF | 3 or NF  | 5 or NF  | 6 or NF  | 6 or NF  |
| JAN   | 2 or NF | 3 or NF  | 5 of NR  | 6 or NF  | 6 or NF  |
| FEB   | 2 or NF | 4 or NF  | 6 or NF  | 8 or NF  | 8 or NF  |
| MAR   | 2 or NF | 5 or NF  | 7 or NF  | 10 or NF | 10 or NF |
| APR   | 3 or NF | 5 or NF  | 8 or NF  | 11 or NF | 11 or NF |
| MAY   | 5 or NF | 10 or NF | 15 or NF | 20 or NF | 20 or NF |
| JUNE  | 5 or NF | 10 or NF | 14 or NF | 19 or NF | 19 or NF |
| JULY  | 2 or NF | 4 or NF  | 6 or NF  | 8 or NF  | 8 or NF  |

|      |         |         |         |         |         |
|------|---------|---------|---------|---------|---------|
| AUG  | 1 or NF | 2 or NF | 3 or NF | 4 or NF | 4 or NF |
| SEPT | 1 or NF | 1 or NF | 2 or NF | 2 or NF | 2 or NF |

**Caples Creek Below Caples Lake Dam**

EID shall maintain in Caples Creek below Caples Lake Dam the minimum streamflows specified in the following schedule, or the natural flow, whichever is less, unless the natural flow is less than five cfs, in which case EID shall maintain a minimum streamflow of five cfs. Compliance with this requirement shall be measured at the gaging station located downstream of the Caples Lake Dam (USGS Gage No. 11434500, EID Gage No. A-6).

Minimum Streamflow Release in cfs or Natural Flow if less, provided that flow is at least 5 cfs

| Month | CD | Dry           | BN            | AN            | Wet           |
|-------|----|---------------|---------------|---------------|---------------|
| OCT   | 5  | 5             | 5             | 5             | 5             |
| NOV   | 5  | 6 or NF or 5  | 8 or NF or 5  | 10 or NF or 5 | 10 or NF or 5 |
| DEC   | 5  | 7 or NF or 5  | 10 or NF or 5 | 10 or NF or 5 | 10 or NF or 5 |
| JAN   | 5  | 7 or NF or 5  | 10 of NR or 5 | 15 or NF or 5 | 15 or NF or 5 |
| FEB   | 5  | 7 or NF or 5  | 10 or NF or 5 | 15 or NF or 5 | 15 or NF or 5 |
| MAR   | 5  | 10 or NF or 5 | 15 or NF or 5 | 20 or NF or 5 | 20 or NF or 5 |
| APR   | 10 | 12 or NF or 5 | 18 or NF or 5 | 25 or NF or 5 | 25 or NF or 5 |
| MAY   | 14 | 27 or NF or 5 | 40 or NF or 5 | 55 or NF or 5 | 55 or NF or 5 |
| JUNE  | 14 | 28 or NF or 5 | 42 or NF or 5 | 55 or NF or 5 | 55 or NF or 5 |
| JULY  | 12 | 25 or NF or 5 | 35 or NF or 5 | 50 or NF or 5 | 50 or NF or 5 |
| AUG   | 5  | 5             | 6 or NF or 5  | 8 or NF or 5  | 8 or NF or 5  |
| SEPT  | 5  | 5             | 5             | 5             | 5             |

**Silver Fork American River Below Silver Lake Dam**

EID shall maintain in the Silver Fork American River below Silver Lake Dam the minimum streamflows specified in the following schedule, or the natural flow, whichever is less. Compliance with this requirement shall be measured at the gaging station located downstream of the Silver Lake Dam (USGS Gage No. 11436000, EID Gage No. A-8).

**Minimum Streamflow Release in cfs or Natural Flow if less.**

| Months | For All Water Year Types |
|--------|--------------------------|
| OCT    | 4 or NF                  |
| NOV    | 4 or NF                  |
| DEC    | 4 or NF                  |
| JAN    | 4 or NF                  |
| FEB    | 4 or NF                  |
| MAR    | 4 or NF                  |
| APR    | 4 or NF                  |
| MAY    | 4 or NF                  |
| JUNE   | 4 or NF                  |
| JULY   | 4 or NF                  |
| AUG    | 4 or NF                  |
| SEPT   | 4 or NF                  |
|        |                          |

**Silver Fork American River Below Oyster Creek**

EID shall maintain in the Silver Fork American River below Oyster Creek the minimum streamflows specified in the following schedule, or the natural flow, whichever is less. Natural flow in the Silver Fork American River below Oyster Creek includes natural inflow into Silver Lake plus the natural leakage and accretion flow of water out of Silver Lake directly into Oyster Creek. EID shall, within one year after development and approval of the Streamflow and Reservoir Storage Gaging Plan (gaging plan) as described in Condition 9, implement the gaging of the Silver Fork American River below Oyster Creek.

**Minimum Streamflow Release in cfs or Natural Flow if less**

| Month | CD       | Dry      | BN       | AN        | Wet       |
|-------|----------|----------|----------|-----------|-----------|
| OCT   | 8 or NF  | 8 or NF  | 8 or NF  | 8 or NF   | 8 or NF   |
| NOV   | 8 or NF  | 8 or NF  | 10 or NF | 16 or NF  | 16 or NF  |
| DEC   | 8 or NF  | 8 or NF  | 10 or NF | 16 or NF  | 16 or NF  |
| JAN   | 8 or NF  | 8 or NF  | 12 or NF | 16 or NF  | 16 or NF  |
| FEB   | 8 or NF  | 10 or NF | 17 or NF | 23 or NF  | 23 or NF  |
| MAR   | 8 or NF  | 15 or NF | 26 or NF | 35 or NF  | 35 or NF  |
| APR   | 8 or NF  | 18 or NF | 50 or NF | 50 or NF  | 50 or NF  |
| MAY   | 10 or NF | 20 or NF | 90 or NF | 100 or NF | 100 or NF |
| JUNE  | 8 or NF  | 10 or NF | 60 or NF | 60 or NF  | 60 or NF  |
| JULY  | 8 or NF  | 8 or NF  | 18 or NF | 20 or NF  | 25 or NF  |
| AUG   | 8 or NF  | 8 or NF  | 8 or NF  | 8 or NF   | 8 or NF   |

|      |         |         |         |         |         |
|------|---------|---------|---------|---------|---------|
| SEPT | 8 or NF | 8 or NF | 8 or NF | 8 or NF | 8 or NF |
|------|---------|---------|---------|---------|---------|

**South Fork American River Below the Kyburz Diversion**

EID shall maintain in the South Fork American River below the Kyburz Diversion Dam the minimum streamflows specified in the following schedule, or the natural flow, whichever is less. Compliance with this requirement shall be measured at the gaging station located downstream of the Kyburz Diversion Dam (USGS Gage No. 11439500, EID Gage No. A-12).

**Minimum Streamflow Release in cfs or Natural Flow if less**

| Month | CD       | Dry       | BN        | AN        | Wet       |
|-------|----------|-----------|-----------|-----------|-----------|
| OCT   | 15 or NF | 15 or NF  | 40 or NF  | 50 or NF  | 50 or NF  |
| NOV   | 15 or NF | 18 or NF  | 40 or NF  | 50 or NF  | 50 or NF  |
| DEC   | 15 or NF | 25 or NF  | 40 or NF  | 50 or NF  | 50 or NF  |
| JAN   | 15 or NF | 25 or NF  | 40 or NF  | 50 or NF  | 50 or NF  |
| FEB   | 20 or NF | 30 or NF  | 40 or NF  | 50 or NF  | 75 or NF  |
| MAR   | 30 or NF | 60 or NF  | 110 or NF | 110 or NF | 110 or NF |
| APR   | 60 or NF | 120 or NF | 180 or NF | 180 or NF | 180 or NF |
| MAY   | 60 or NF | 120 or NF | 180 or NF | 240 or NF | 240 or NF |
| JUNE  | 60 or NF | 120 or NF | 180 or NF | 240 or NF | 240 or NF |
| JULY  | 40 or NF | 85 or NF  | 125 or NF | 160 or NF | 160 or NF |
| AUG   | 18 or NF | 18 or NF  | 65 or NF  | 65 or NF  | 65 or NF  |
| SEPT  | 15 or NF | 15 or NF  | 50 or NF  | 50 or NF  | 50 or NF  |

**Carpenter Creek Below the  
Carpenter Creek Diversion Dam**

EID shall maintain in Carpenter Creek below the Carpenter Creek Diversion Dam the minimum streamflows specified in the following schedule, or the natural flow, whichever is less. EID shall, within one year after development and approval of the Streamflow and Reservoir Storage Gaging Plan (gaging plan) as described in Condition 9, implement the gaging of Carpenter Creek below the Carpenter Creek Diversion Dam.

**Minimum Streamflow Release in cfs or Natural Flow if less**

| Months | For All Water Year Types |
|--------|--------------------------|
| OCT    | 1 or NF                  |
| NOV    | 1 or NF                  |
| DEC    | 2 or NF                  |
| JAN    | 2 or NF                  |
| FEB    | 3 or NF                  |
| MAR    | 4 or NF                  |
| APR    | 5 or NF                  |
| MAY    | 4 or NF                  |
| JUNE   | 2 or NF                  |
| JULY   | 1 or NF                  |
| AUG    | 1 or NF                  |
| SEPT   | 1 or NF                  |

**No Name Creek**

EID shall maintain in No Name Creek below the No Name Creek Diversion Dam the minimum streamflows specified in the following schedule, or the natural flow, whichever is less. EID shall, within one year after development and approval of the Streamflow and Reservoir Storage Gaging Plan (gaging plan) as described in Condition 9, implement the gaging of No Name Creek.

**Minimum Streamflow Release in cfs or Natural Flow if less**

| Months | For All Water Year Types |
|--------|--------------------------|
| OCT    | 1 or NF                  |
| NOV    | 1 or NF                  |
| DEC    | 1 or NF                  |
| JAN    | 1 or NF                  |
| FEB    | 1 or NF                  |
| MAR    | 1 or NF                  |
| APR    | 1 or NF                  |
| MAY    | 1 or NF                  |
| JUNE   | 1 or NF                  |
| JULY   | 1 or NF                  |
| AUG    | 1 or NF                  |
| SEPT   | 1 or NF                  |

**Alder Creek**

EID shall maintain in Alder Creek below the Alder Creek Diversion Dam the minimum streamflows specified in the following schedule, or the natural flow, whichever is less. EID shall, within one year after development and approval of the Streamflow and Reservoir Storage Gaging Plan (gaging plan) as described in Condition 9, implement the gaging of Alder Creek.



Minimum Streamflow Release in cfs or Natural Flow if less

| Month | CD       | Dry      | BN       | AN       | Wet      |
|-------|----------|----------|----------|----------|----------|
| OCT   | 25 or NF | 25 or NF | 25 or NF | 25 or NF | 25 or NF |
| NOV   | 5 or NF  | 5 or NF  | 5 or NF  | 5 or NF  | 5 or NF  |
| DEC   | 5 or NF  | 5 or NF  | 5 or NF  | 10 or NF | 10 or NF |
| JAN   | 5 or NF  | 5 or NF  | 10 or NF | 10 or NF | 10 or NF |
| FEB   | 5 or NF  | 5 or NF  | 10 or NF | 10 or NF | 10 or NF |
| MAR   | 25 or NF | 25 or NF | 45 or NF | 45 or NF | 45 or NF |
| APR   | 25 or NF | 35 or NF | 65 or NF | 90 or NF | 90 or NF |
| MAY   | 25 or NF | 30 or NF | 55 or NF | 75 or NF | 75 or NF |
| JUNE  | 25 or NF | 25 or NF | 25 or NF | 25 or NF | 25 or NF |
| JULY  | 25 or NF | 25 or NF | 25 or NF | 25 or NF | 25 or NF |
| AUG   | 25 or NF | 25 or NF | 25 or NF | 25 or NF | 25 or NF |
| SEPT  | 25 or NF | 25 or NF | 25 or NF | 25 or NF | 25 or NF |

**Mill Creek Below Mill Creek  
Diversion Dam**

EID shall maintain in Mill Creek below the Mill Creek Diversion Dam the minimum streamflows specified in the following schedule, or the natural flow, whichever is less. EID shall, within one year after development and approval of the Streamflow and Reservoir Storage Gaging Plan (gaging plan) as described in Condition 9, implement the gaging of Mill Creek below Mill Creek Diversion Dam.

Minimum Streamflow Release in cfs or Natural Flow if less

| Months | For All Water Year Types |
|--------|--------------------------|
| OCT    | 1 or NF                  |
| NOV    | 2 or NF                  |
| DEC    | 3 or NF                  |
| JAN    | 4 or NF                  |
| FEB    | 6 or NF                  |
| MAR    | 7 or NF                  |
| APR    | 6 or NF                  |
| MAY    | 4 or NF                  |
| JUNE   | 2 or NF                  |
| JULY   | 1 or NF                  |

|      |         |
|------|---------|
| AUG  | 1 or NF |
| SEPT | 1 or NF |

**Bull Creek Below Bull Creek  
Diversion Dam**

EID shall maintain in Bull Creek below the Bull Creek Diversion Dam the minimum streamflows specified in the following schedule, or the natural flow, whichever is less. EID shall, within one year after development and approval of the Streamflow and Reservoir Storage Gaging Plan (gaging plan) as described in Condition 9, implement the gaging of Bull Creek below Bull Creek Diversion Dam.

**Minimum Streamflow Release in cfs or Natural Flow if less**

| Months | For All Water Year Types |
|--------|--------------------------|
| OCT    | 1 or NF                  |
| NOV    | 1 or NF                  |
| DEC    | 1 or NF                  |
| JAN    | 1 or NF                  |
| FEB    | 1 or NF                  |
| MAR    | 1 or NF                  |
| APR    | 1 or NF                  |
| MAY    | 1 or NF                  |
| JUNE   | 1 or NF                  |
| JULY   | 1 or NF                  |
| AUG    | 1 or NF                  |
| SEPT   | 1 or NF                  |

**Ogilby Creek Below Ogilby Creek  
Diversion Dam**

EID shall maintain in Ogilby Creek below the Ogilby Creek Diversion Dam the minimum streamflows specified in the following schedule, or the natural flow, whichever is less. EID shall, within one year after development and approval of the Streamflow and Reservoir Storage Gaging Plan (gaging plan) as described in Condition 9, implement the gaging of Ogilby Creek below Ogilby Creek Diversion Dam.

**Minimum Streamflow Release in cfs or Natural Flow if less**

| Months | For All Water Year Types |
|--------|--------------------------|
| OCT    | 1 or NF                  |
| NOV    | 1 or NF                  |
| DEC    | 1 or NF                  |
| JAN    | 1 or NF                  |

|      |         |
|------|---------|
| FEB  | 2 or NF |
| MAR  | 2 or NF |
| APR  | 2 or NF |
| MAY  | 2 or NF |
| JUNE | 1 or NF |
| JULY | 1 or NF |
| AUG  | 1 or NF |
| SEPT | 1 or NF |

**Esmeralda Creek Below Esmeralda Diversion Dam**

EID shall maintain in Esmeralda Creek below the Esmeralda Creek Diversion Dam the minimum streamflows specified in the following schedule, or the natural flow, whichever is less. EID shall, within one year after development and approval of the Streamflow and Reservoir Storage Gaging Plan (gaging plan) as described in Condition 9, implement the gaging of Esmeralda Creek below Esmeralda Diversion Dam.

Minimum Streamflow Release in cfs or Natural Flow if less

| Months | For All Water Year Types |
|--------|--------------------------|
| OCT    | 1 or NF                  |
| NOV    | 1 or NF                  |
| DEC    | 1 or NF                  |
| JAN    | 1 or NF                  |
| FEB    | 1 or NF                  |
| MAR    | 2 or NF                  |
| APR    | 2 or NF                  |
| MAY    | 2 or NF                  |
| JUNE   | 1 or NF                  |
| JULY   | 1 or NF                  |
| AUG    | 1 or NF                  |
| SEPT   | 1 or NF                  |

**2. Ramping Rates**

EID shall, beginning as early as reasonably practicable and no later than three months after license issuance, comply with the following ramping rates for streamflow releases that EID controls at Echo Lakes and Lake Aloha:

| Change in Water Level<br>of Stream (feet/hour) | Flow Range<br>(cfs) |
|------------------------------------------------|---------------------|
| 0.5                                            | 1-75.0              |
| 1.0                                            | 75.1-175            |
| 1.5                                            | above 175.1         |

EID shall, beginning as early as reasonably practicable and no later than three months after license issuance, comply with the following ramping rates for streamflow releases that EID controls at Caples Lake and Silver Lake:

| Change in Water Level of Stream (feet/hour) | Flow Range (cfs) |
|---------------------------------------------|------------------|
| 1.0                                         | 1-75.0           |
| 0.5                                         | 75.1-175         |
| 0.55                                        | above 175.1      |

Where facility modification is required to provide the specified ramping rates, EID shall complete such modifications as soon as reasonably practicable and no later than three years after license issuance. Prior to such required facility modifications, the licensee shall make a good faith effort to provide the specified ramping rates within the capabilities of the existing facilities. EID shall provide streamflow records related to ramping to the Chief of the Division of Water Rights, FS and the ERC, upon request.

The EID shall be excused from complying with the ramping rate requirements in the event of law enforcement or search and rescue activities, Division of Safety of Dams compliance requirements, equipment malfunction or failure that is directly related to providing the specified ramping rates, or a large storm event that is beyond its ability to control. EID shall provide notice to the Chief of the Division of Water Rights, FS and the ERC within 10 days after such an event occurs and shall provide a report documenting the reason that ramping rates were not followed within one month after such an event occurs.

3. Minimum Instream Flows From Project Reservoirs Not Diverted into El Dorado Canal if Ecological Resource Objectives are Not Met After Five Years.

The EID shall not divert into the El Dorado Canal the prescribed minimum instream flow releases as specified for Lake Aloha Dam, Caples Lake Dam, and Silver Lake Dam in the tables in Condition No. 1, if the FS, and the State Water Board in consultation with the ERC makes an affirmative determination, based on the first five years of monitoring results, that applicable ecological resource objectives (Appendix B of the Settlement Agreement<sup>2</sup>) are not being met with the initial flow regime described in Condition No. 1. The required minimum instream flow releases from Lake Aloha, Caples Lake and Silver Lake Dams shall be combined with the minimum in stream flows required at Kyburz Diversion Dam. The months in which this requirement would apply are listed in the table below.

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<sup>2</sup> Appendix B of the Settlement Agreement contains measures agreed to among the parties but not to be included in New Project License, Section 4(e) Conditions, or Other Mandatory License Conditions

## Minimum Streamflows Adaptive Management

| Water Year | Applicable Months                    |
|------------|--------------------------------------|
| Wet        | September, October                   |
| AN         | September, October                   |
| BN         | August, September, October           |
| Dry        | July, August, September, October     |
| CD         | August, September, October, November |

### 4. Operation and Maintenance of Lake Aloha

#### Prevention of Spills and Removal of Trout if Spill Occurs

EID shall attempt to operate Lake Aloha to prevent water in the reservoir from spilling over Auxiliary Dams 1-7 during spring runoff and while the reservoir is filling. If spill occurs over these dams and into the pools below, EID shall manually remove trout from the pools. Within 14 days of spill occurring, EID shall submit a plan for removing fish from these pools and ponds to the FS and CDFG and, after approval of the plan by the FS and CDFG, shall initiate the removal within 30 days after the spill occurs. By July 30 of each year, EID shall produce a monitoring report documenting whether spill occurred over the Auxiliary Dams and whether trout were found and removed. EID shall provide the monitoring report to the FS, CDFG, the ERC and the Chief of the Division of Water Rights. If no fish are located after five years of surveys after spills, the EID shall consult with the FS and CDFG to determine whether further surveys are necessary. EID shall continue to produce the annual monitoring report until the FS and CDFG determine that further surveys are no longer required.

#### Trout Survey and Removal

Within one year of license issuance, EID shall survey the pools and ponds below Auxiliary Dams 1-7 on Lake Aloha to determine if trout are present in the pools and ponds. If trout are present, EID shall submit a plan for removal of the trout to the FS and CDFG within 30 days of locating the trout. Upon approval of the plan by the FS and CDFG, EID shall implement the removal program.

### 5. Caples Lake Releases and Flow Limitations

#### Pulse Flows

The EID shall, within the first complete water year after license issuance but not prior to the implementation of the new minimum streamflows, provide annual pulse flow events in the natural Caples Creek channel below Caples Lake Dam as specified in the following pulse flow schedule by water year type. Pulse flows shall be timed to correspond to the annual spring peak runoff based on EID's best estimate of maximum flow in any particular year. All specified pulse flows are in cubic feet per second (cfs).

EID shall be excused from complying with the pulse flow requirements in the event of law enforcement or search and rescue activities, Division of Safety of Dams compliance requirements, equipment malfunction or failure that is directly related to providing the specified pulse flows, or a large storm event that is beyond its ability to control. If a pulse flow is so modified, EID shall notify the FS, ERC, and the Chief of the Division of Water Rights as soon as possible but no later than 10 days after such incident. The pulse flows specified may also be temporarily modified for short periods in non-emergency situations upon approval of the FS and the Chief of the Division of Water Rights.

**Pulse Flow by Water Year (cfs)**

| <b>Reach</b>                                     | <b>CD</b> | <b>Dry</b> | <b>BN</b> | <b>AN</b> | <b>Wet</b> | <b>Duration and Timing</b>                                              |
|--------------------------------------------------|-----------|------------|-----------|-----------|------------|-------------------------------------------------------------------------|
| Caples Creek Channel<br>Below Caples Lake<br>Dam | 0         | 150        | 210       | 300       | 345        | 5-day continuous pulse timed to correspond to annual spring peak runoff |

Where facility modification is required to provide the specified pulse flows, EID shall make such modifications as soon as reasonably practicable and no later than three years after license issuance. Prior to such required facility modifications, EID shall make a good faith effort to provide the specified pulse flows within the capabilities of the existing facilities.

EID shall, after five years of implementation of the new license, and based on monitoring results from the geomorphology monitoring elements described in Condition No. 13, increase pulse flows up to a maximum of 600 cfs, based on water year type, or change the duration of the existing pulse flow to a maximum of 10 days in Caples Creek if initial pulse flows are not effectively mitigating sediment/bedload transport or other fluvial processes problems caused by the Project. If monitoring indicates that the pulse flows are resulting in damage to the Caples Creek channel or if monitoring indicates that reduced pulse flows are effective in meeting the fluvial geomorphology objective described in Appendix B, Section 1, of the El Dorado Relicensing Settlement Agreement, the FS and State Water Board may decrease the magnitude of the pulse flows. The FS and the Chief of the Division of Water rights shall, after consultation with the ERC, make the final determination as to whether the pulse flow shall be increased, decreased, or whether the duration shall be lengthened.

**Caples Spillway Channel Flows**

EID shall not release more than 60 cfs into the existing Caples Lake Spillway channel. EID shall be excused from complying with this requirement in the event of law enforcement or search and rescue activities, Division of Safety of Dams compliance requirements, equipment malfunction or failure that is directly related to compliance with this requirement, or a large storm event that is beyond its ability to control. If EID releases more than 60 cfs into the spillway channel, EID shall notify the FS, ERC, and the Chief of the Division of Water Rights as soon as possible but no later than 10 days

after such incident. The specified spillway channel flows may also be temporarily modified for short periods in non-emergency situations upon approval of the Chief of the Division of Water Rights.

#### Caples Dam Spillway Maximum Flows

The FS may adjust the Caples Dam Spillway channel maximum flow of 60 cfs if results of the geomorphology monitoring elements described in Condition No. 13 indicate that these flows are resulting in damage to the Caples Creek Spillway Channel or it is determined that the channel can be reconfigured to adequately handle higher flows and meet resource objectives. The Chief of the Division of Water Rights shall make the final determination as to whether the allowable spill flow shall be adjusted.

The determination whether streamflows in the Caples Spillway Channel may be increased shall be based on the following studies: the geomorphology study of sensitive sites at Caples Creek and Oyster Creek (as found in Condition 13); and the following condition:

Within two years of license issuance, EID shall complete a feasibility study to determine whether the Caples Spillway Facility can be designed to convey adaptive management pulse flows that cannot be released through the existing outlet works into the Caples Creek natural channel in a manner that addresses resource concerns. The spillway channel stabilization would need to be designed to convey the additional 250 cfs into Caples Creek. EID shall consult with appropriate staff from FS, the State Water Board, and members of the ERC during the development of the feasibility study, specifically to describe the problems with the existing spillway channel that need to be addressed in the study. The study must also include a cost estimate for this work and a cost estimate for redesigning the outlet works such that up to 600 cfs can be released directly into the Caples Creek natural channel. The Chief of the Division of Water Rights in consultation with the FS and ERC must approve the study.

#### Fall Release Flows

September, October, and November release flows in the Caples Creek channel shall not be greater than 150 cfs. If a large storm event occurs during this period and EID cannot maintain these flows, EID shall notify the FS, ERC, and the Chief of the Division of Water Rights within 10 days after such an event occurs and shall provide a report within one month after such an event occurs documenting the reason that fall release flows were not maintained.

#### 6. Oyster Creek Stabilization

Within two years of license issuance, EID shall survey the Oyster Creek channel and develop a plan that is approved by the Chief of the Division of Water Rights in consultation with the FS for stabilization of the channel. Within five years of license issuance, EID shall implement those portions of the plan that the FS, in cooperation with

EID, determines to be Project-related. EID may pursue a Coordinated Resource Management Program with other landowners in the area.

7. Esmeralda Creek Restoration

Within two years of license issuance, EID shall survey the portion of the channel located on National Forest System lands and the portion of the channel that is not on public lands but is affected by the Project and shall develop a plan that is approved by FS and the Chief of the Division of Water Rights for the restoration of the Esmeralda Creek channel. EID shall submit the plan to the Chief of the Division of Water Rights for review and comment. EID shall implement the plan within five years of license issuance.

8. Target Lake Levels and Minimum Pool

Echo Lakes

EID shall operate Echo Lakes such that the channel between the Upper and Lower Echo Lakes is navigable by motorized watercraft, between July 1 and Labor Day of each year, while still complying with minimum streamflow or other conditions and requirements. If EID anticipates that the reservoir will not meet this target level for reasons other than non-discretionary releases, EID shall notify FS, ERC, the Chief of the Division of Water Rights, and the Commission in writing within 10 days of this determination, and provide an explanation of why the target reservoir level will not be attained.

Caples Lake

The licensee shall operate Caples Lake as follows:

**Caples Lake**

| Month  | End of Month Lake Levels by Water Year<br>In Acre-Feet |       |       |       |       |
|--------|--------------------------------------------------------|-------|-------|-------|-------|
|        | CD                                                     | DRY   | BN    | AN    | WET   |
| JUNE   | 18704                                                  | 18704 | 22338 | 22338 | 22338 |
| JULY   | 18413                                                  | 18646 | 22089 | 22338 | 22338 |
| AUGUST | 14376                                                  | 14376 | 18006 | 18006 | 18006 |
| SEPT   | 14376                                                  | 14376 | 18006 | 18006 | 18006 |

The lake levels described above are target values. If EID cannot achieve the target level for any month from June through September, EID shall not make, or shall cease making as soon as it is able to make its determination, discretionary releases from Caples Lake in that month.

Using the forecasting method described in Condition No. 1, subsection Water Year Types, EID shall annually, by March 15, provide a preliminary evaluation of the water year type and consult with the FS, ERC, and SWRCB to determine the anticipated June through September lake levels for the year based on that water year type and the table above. As described in Condition No. 1, subsection Water Year Types, EID shall, between May 1 and May 5 of each year, make the final water year type determination, and shall, within 10 days, so inform the FS, ERC, and Chief of the Division of Water



Rights. The final water year type selected for operations during the year will be subject to approval the Chief of the Division of Water Rights in consultation with the FS.

EID shall report to the FS, ERC, and Chief of the Division of Water Rights any changes in its operations or factors beyond its control that render it unable to meet the target lake levels. EID shall make this report within five days of discovering its inability to meet a target. EID shall also, within 30 days, inform the Commission. Members of the ERC or the FS may request a meeting of the ERC to review proposed or implemented operational changes, or other factors, that make it impossible to meet a June through September lake level target.

During the fall and early winter of each year, EID shall attempt to operate Caples Lake so that target lake levels are likely to be met in the following summer. Such operation may include, but is not limited to, maintaining adequate storage in Caples Lake in early winter (model results to date indicate that necessary storage may be as high as 13,000 acre-feet on November 30). EID shall maintain a target minimum pool in Caples Lake of 10,000 acre-feet. If EID anticipates reducing the level of Caples Lake below the 10,000 acre-foot target level, such as during a water year when spill is a concern, EID shall notify the FS, ERC, and the Chief of the Division of Water Rights within five days and shall provide them a detailed explanation as to why the target lake level is anticipated to be reduced.

As described in Condition No. 1, subsection Water Year Types, EID shall, within two years of license issuance, develop a forecasting method and associated operating plan that will be used to re-assess the water year type and to adjust minimum streamflows at Caples Lake Dam and Kyburz Diversion Dam during the months of January and February, in order to address lake levels at Caples Lake. The forecasting method shall be used to evaluate the water year type designations governing operations for January and February. The method and plan shall be approved by the Chief of the Division of Water Rights in consultation with the FS and the ERC prior to filing the method and plan with the Commission. Once approved by the Commission, EID shall operate Caples Lake Dam and Kyburz Diversion Dam for the months of January and February, beginning on the 5<sup>th</sup> day of each of these months, based on the approved forecasting method and operating plan. EID shall provide notice to the FS, ERC, and the Chief of the Division of Water Rights of the water year type designation governing operations for January and for February within five days of making each determination. After February, the forecasting method shall be consistent with the method described in Condition No. 1, subsection Water Year Types (using Bulletin 120 or duly approved alternate forecasting tool).

#### Silver Lake

Notwithstanding any other provision of this section, prior to Labor Day of each year, EID shall not release water from Silver Lake for consumptive use, power production, rediversion, maintenance, or other purposes, excluding the minimum streamflow release

requirement from Silver Lake Dam and any other non-discretionary releases required by the Commission or the State Division of Safety of Dams.

Between Labor Day and September 15, EID shall not make discretionary releases from Silver Lake unless a Stage 1, 2, or 3 Emergency Notice is issued during this time period by the Independent System Operator (ISO) or a similar equivalent alert is issued by the ISO or its institutional successor. In cases where such an Emergency Notice is issued in this time period, EID shall, once the Project is no longer subject to Emergency status and the Forebay has been replenished to pre-Notice levels, discontinue discretionary releases until after September 15. In situations where a Stage 1, 2, or 3 Emergency Notice is issued between Labor Day and September 15, EID shall not draw Silver Lake down to a stage lower than 12.0 feet as measured on the gage at the outlet works on September 15.

After September 15 of each year, EID may make discretionary releases from Silver Lake, with the limitation that stage height on September 30 shall be no less than 12.0 feet as measured on the gage at the outlet works. If Silver Lake reaches a stage height of 12.0 feet prior to September 30 because of pre-September 15 discretionary releases under the preceding paragraph, EID shall make no further discretionary releases in September.

EID shall schedule the annual, as opposed to emergency, maintenance period for the El Dorado Canal and Akin Powerhouse to begin no later than October 3<sup>rd</sup> of each year. From the time maintenance begins until the time that the non-operation maintenance of the El Dorado Canal and/or Akin Powerhouse is completed, release from Silver Lake shall meet the minimum flow requirements in the Silver Fork American River, and, where applicable, may also be used to meet that portion of the minimum flow at Kyburz Diversion Dam not being met from other sources. Further, release from Silver Lake may also be increased after October 15 if necessary to reach the 12.0-foot stage by October 25.

Silver Lake stage shall be no less than 7.4-foot stage as of November 1 of each year.

If EID is unable to operate the El Dorado Canal at any time between September 15 and September 30 of any year, EID shall make no discretionary releases from Silver Lake during canal downtime between September 15 and September 30 of that year.

In years where EID is able to operate the El Dorado Canal, but is unable to operate the Akin Powerhouse at any time between September 15 and September 30, EID shall limit discretionary releases from Silver Lake during that powerhouse downtime between September 15 and September 30 according to the following system of priorities:

EID shall draw water required to meet consumptive needs at the EID Forebay, plus the required minimum flow at Kyburz Diversion Dam, first from accretion between the high lakes and Kyburz Diversion Dam, second from the required minimum flow from Caples Lake Dam, Lake Aloha Dam, and Silver Lake Dam and from leakage from Silver Lake, and third from the maximum available release from Echo Lakes. EID may obtain any additional water required to meet consumptive needs at the Forebay plus required

minimum flow past Kyburz Diversion Dam by making discretionary releases from Silver Lake, provided that the level of Silver Lake does not drop below the 12.0-foot stage at the end of September.

If possible, EID shall include the estimated duration of the annual maintenance period in the operations and maintenance plan described in Condition No. 18. At the latest, EID shall notify the FS, ERC, and Chief of the Division of Water Rights of the estimated duration of the maintenance period no later than July 1. EID shall post and update this information on its website.

#### Lake Aloha

EID shall operate Lake Aloha in such a manner as to comply with the End-of-Month Lake Level Operational Requirements established in State Water Board Decision 1635 as modified by Order WR 2001-22. If EID anticipates that the reservoir will not meet this target level, EID shall notify the FS, ERC, Commission and the Chief of the Division of Water Rights in writing, within 10 days of this determination, and provide an explanation of why the target reservoir level will not be attained.

#### Target Lake Level Monitoring and Adjustment

Within five years of license issuance, and every five years thereafter, EID shall prepare a report describing whether the target lake levels have been achieved, and if not, the reasons and time periods when the target lake levels were not achieved. EID shall provide a copy of the report to the FS, ERC, the Commission and the Chief of the Division of Water Rights.

### 9. Streamflow and Reservoir Storage Gaging Plan

EID shall, within one year after license issuance, develop and file a Streamflow and Reservoir Storage Gaging Plan (gaging plan) that meets United States Geological Survey (USGS) standards with the State Water Board for approval. The plan shall include locations and methods for determining natural flow identified in Condition 1. The plan shall be approved by the Chief of the Division of Water Rights prior to filing with the Commission for its approval. EID shall provide copies of the approved gaging plan and USGS review results to the FS, State Water Board and the ERC. EID shall implement the plan within two years upon approval.

At a minimum, the plan shall address compliance gaging at the following locations:

- Echo Creek below Echo Lakes Dam
- Pyramid Creek below Lake Aloha Dam
- Caples Creek below Caples Lake Dam
- Silver Fork American River below Silver Lake Dam
- Silver Fork American River below Oyster Creek
- SFAR below Kyburz Diversion Dam

- Carpenter Creek below Carpenter Creek Diversion Dam
- No Name Creek below No Name Creek Diversion Dam
- Alder Creek below Alder Creek Diversion
- Mill Creek below Mill Creek Diversion Dam
- Bull Creek below Bull Creek Diversion Dam
- Ogilby Creek below Ogilby Diversion Dam
- Esmeralda Creek below Esmeralda Creek Diversion Dam

EID shall perform an investigation to determine whether telemetry equipment can be installed at Lake Aloha to monitor conditions and control operations. If the State Water Board and FS concur in consultation with EID that such equipment is economically and technologically feasible and can be installed consistent with law, regulations, and policies applicable to Desolation Wilderness, EID shall seek necessary approvals for such installation and install the equipment upon approval.

10. Preferred Canal Drainage Structure and Release Point Plan

EID shall, within one year after license issuance, file with the Commission a plan approved by the Chief of the Division of Water Rights after consultation with the FS and ERC, to designate preferred canal drainage structures and release points to be used in the event of an emergency and for maintenance, that will minimize adverse impacts to water quality. EID shall implement the plan upon approval.

11. Erosion Control Plan For New Construction and Measures For Project Maintenance and Operations

During planning and prior to any new ground-disturbing construction or non-routine maintenance not addressed in an existing plan that may affect National Forest System lands (including but not limited to any recreation-related construction) or could result in discharges to waters of the state, EID shall file with the Commission, a plan approved by the Chief of the Division of Water Rights in consultation with the FS for the control of erosion, stream sedimentation, dust, and soil mass movement.

The plan shall be based on actual-site geological, soil, and groundwater conditions and shall include: (1) a description of the actual-site conditions; (2) detailed descriptions, design drawings, and specific topographic locations of all control measures; (3) measures to divert runoff away from disturbed land surfaces; (4) measures to collect and filter runoff.

12. Fish Screens for Alder Creek and Carpenter Creek

Within one year of license issuance, EID shall develop a plan for screening Carpenter and Alder Creeks for all life stages of trout. The plan shall be approved by the FS and CDFG after consultation with the State Water Board and ERC prior to EID implementing

the plan. The screening of Carpenter and Alder Creeks shall be implemented as soon as practicable after approval by the FS and CDFG.

### 13. Ecological Resources Monitoring Programs

EID shall implement the following Ecological Resource Monitoring Programs after license issuance and through the term of the new license and any annual licenses, in coordination with the FS, ERC, CDFG and the Chief of the Division of Water Rights. Within the scope of a specified monitoring program, the FS, ERC, CDFG and Chief of the Division of Water Rights may select an equal number of alternative years to ensure that surveys occur during a range of water year types. Final study plans shall be approved by the Chief of the Division of Water Rights in consultation with the FS, ERC, and CDFG. The FS, ERC, CDFG and Chief of the Division of Water Rights shall maintain the flexibility to alter the monitoring program methodologies and frequency of data collection if they determine that: (a) there is a more appropriate or preferable methodology to use than that described in the monitoring plan or (b) monitoring may be reduced or terminated because the relevant ecological resource objective has been met or no change in resource response is expected.

EID shall file with the Commission by June 30 of each year an annual report fully describing the monitoring efforts of the previous calendar year. EID shall provide copies of the annual report to the FS, ERC, CDFG and the State Water Board. The FS, ERC, CDFG and the State Water Board shall have at least 30 days to review and comment on the report prior to filing with the Commission.

The following guidelines shall be used in implementing the monitoring program: (a) monitoring and studies shall be relevant to Project 184, (b) monitoring and studies shall be conducted such that they provide useful information for management decisions or establishing compliance with license conditions, and (c) monitoring and studies shall be as cost-effective as possible. EID shall provide funding for performing the monitoring, as well as specified contingency funding.

Most monitoring described below is estimated to end after 30 years; however, if a new subsequent license is not issued within 30 years, the FS, CDFG and/or the Chief of the Division of Water Rights, in consultation with the ERC, reserve the right to extend the monitoring period as necessary.

#### a. Fish Populations

Method: Electrofishing and/or snorkeling (as conducted in 1998-2002 by EID) during late summer/fall at six stations for rainbow trout:

- SFAR below Carpenter Creek
- Lower Alder Creek
- Lower Pyramid Creek
- Lower Echo Creek

- Silver Fork American River at Forgotten Flat
- Caples Creek below Kirkwood Creek

Existing data on hardhead, a native species, are not sufficient to derive biomass indices for determining habitat quality. Continued directed monitoring will provide these data so that the ERC, FS, CDFG and the State Water Board may develop indices in the near future. An additional monitoring site shall be located upstream of the Akin Powerhouse and downstream of the confluence with Silver Creek in the section where hardhead presence was identified. This site may require a combination of snorkeling and electrofishing. If the hardhead data are collected in the Upper American River Project (UARP) relicensing, they can be used to satisfy this requirement after review and approval by the Chief of the Division of Water Rights in consultation with the FS, ERC, and CDFG.

Frequency: Rainbow trout: Years 5, 6, 10, 11, 15, 16, 20, 21, 25, 26, 30, 31. Hardhead: At least three years of monitoring would be needed in the hardhead reaches as determined in Payne (1998). Thereafter, monitoring shall continue at five-year intervals if the Chief of the Division of Water Rights in consultation with the FS, ERC, CDFG determine it is necessary.

#### b. Macroinvertebrate Monitoring

Method: California Rapid Bioassessment Protocol methodology described in the Draft Benthic Macroinvertebrate Sampling Program (EID 2002) at the following sampling sites:

- Echo Creek (EID site EC-B1)
- Pyramid Creek (EID site PY-B1)
- Caples Creek (EID site CA-B1)
- Silver Fork American River (EID site SV-B2)
- SFAR (EID site SO-B1)
- Carpenter Creek (EID sites CR-B1 and 2)
- No Name Creek (EID sites NN-B1 and 2)
- Alder Creek (EID sites AR-B1 and 2)
- Mill Creek (EID sites ML-B1 and 2)
- Bull Creek (EID sites BU-B1 and 2)
- Ogilby Creek (EID sites OG-B1 and 2)
- Esmeralda Creek (EID sites ES-B1 and 2)

Reference streams that were sampled as part of the macroinvertebrate monitoring program during the relicensing shall be incorporated into the monitoring program. Reference sites may be substituted upon approval by the Chief of the Division of Water Rights in consultation with the FS, ERC, and CDFG. The upstream sample site locations on the feeder tributaries to the El Dorado Canal will serve as the reference sites for those locations.

- Strawberry Creek (EID site SB-B1)
- Sherman Canyon Creek (EID site SH-B1)
- Woods Creek (EID site WC-B1)

Frequency: Years 5, 6, 10, 11, 15, 16, 20, 21, 25, 26, 30, 31.

c. Foothill Yellow-legged Frog (FYLF) Surveys

Method: The surveys shall begin in the first calendar year after license issuance. EID shall conduct three years of protocol surveys for sensitive species using the procedures of Pacific Gas and Electric Company (2002) methodology in a sub-sample of appropriate habitat types to document species presence and distribution. EID shall identify amphibian breeding and larval periods in Project 184-affected reaches by periodically surveying reaches of known presence during spring/summer.

The purpose of the first year of surveys is to determine the timing and success of the following life stages of existing known populations: egg laying, tadpole rearing, metamorphosis, and size/condition of metamorphs in late September to estimate probability of overwintering success. For subsequent years, the FS, ERC, CDFG and the Chief of the Division of Water Rights may approve a subset of survey sites or a less intensive program, based on review of the first year's data. In the future, FS, ERC, CDFG and the Chief of the Division of Water Rights may request additional breeding site habitat data to assess the cause of unexpected or chronic reproductive failures that may be related to Project operations. If the FYLF data are collected in the UARP relicensing, they can be used to satisfy this requirement after FS, ERC, CDFG and Chief of the Division of Water Rights approval.

Foothill yellow-legged frog Monitoring Sites:

- SFAR at Akin Powerhouse (EID site 105R)
- SFAR (EID site 110R)
- Silver Creek (EID site 115T)
- SFAR (EID site 120R)
- Soldier Creek (EID site 125T)
- Ogilby Creek (EID site 210DT)
- SFAR at Maple Grove (EID site 220R)
- SFAR from Alder Creek upstream to Kyburz Diversion Dam (sites to be determined)

Besides the above known site presence monitoring, the monitoring program shall address water velocities and discharge. EID also shall conduct surveys related to flow fluctuations June through September at any time the SFAR flow is 100 cfs or less and the reach between Kyburz Diversion Dam and Silver Creek changes 50 cfs or more in one day. Once the Chief of the Division of Water Rights in consultation with the FS, ERC, and CDFG determine that a certain level of flow change or fluctuation can occur without

effects to egg mass or tadpole displacement, then only flow changes in greater magnitude than that already monitored would need to be checked. To the maximum extent possible, EID shall provide advance notification to the Chief of the Division of Water Rights, FS, ERC, and CDFG of any known type of Project-related flow fluctuation between June and September. EID shall attempt to monitor emergency Project-related flow changes prior to (if possible) and after any flow change that meets the criteria described above. Conclusions from such monitoring shall be reported to the Chief of the Division of Water Rights, FS, ERC, and CDFG within five days. These elements of the monitoring program shall be consistent with Condition No. 2 (Ramping Rates).

EID, based on the first three years of monitoring results, may be required to modify Project operations to address Project-related flow fluctuations in the SFAR immediately below the Kyburz Diversion Dam if the Chief of the Division of Water Rights in consultation with the FS, ERC and CDFG determine that such fluctuations adversely affect amphibian egg masses and tadpoles. After the third year, the Chief of the Division of Water Rights in consultation with the FS, ERC and CDFG, and will reassess the need for continued monitoring after flow changes.

Frequency for known site presence monitoring at the sites listed above if not modified by the Chief of the Division Water Rights in consultation with the FS, ERC, CDFG shall be: years 1, 2, 3, 5, 10, 15, 20, 25, 30.

#### d. Mountain Yellow-legged Frog Survey

Method: The survey shall begin in the first calendar year after license issuance. Protocol surveys for sensitive species using the procedures of CDFG (2001) in a subsample of appropriate habitat types to document species presence and distribution. Surveys would focus on presence of the larval stage at sites by periodically surveying reaches of known presence during spring/summer. If CDFG collects data associated with Lake Aloha and associated waters, that information can be used to satisfy this requirement after FS, ERC, and State Water Board review and approval.

Mountain yellow-legged frog Monitoring Sites:

- Echo Lake – Camp Harvey Tributary and associated ponds (EID site 440 T/L)
- Silver Lake (EID site 750LB)
- Camp Silverado (EID site 753IT)
- Caples Lake
- Lake Aloha and associated downstream ponds and habitats

Frequency: For the sites listed above, years 1, 5, 10, 15, 20, 25, 30. For Lake Aloha ponds, year one and after any spill.

#### e. Riparian Vegetation Species Composition Surveys



Method: Collection of pertinent data along fourteen existing transects at eight study sites in representative habitat types. Methods in accordance with those used in *Composition of Riparian Herb Communities on Streams with Regulated and Unregulated Streamflow*, Eldorado National Forest, California (Harris and Lindquist 2000a). The study sites and transect locations are listed in this study.

Frequency: Every five years.

#### f. Riparian Vegetation Recruitment Survey

Method: Method is described in *Riparian Vegetation Establishment and Survival on Caples Creek and Kirkwood Creek, Summer, 2000* (Harris and Lindquist 2000b). Data shall be collected at 24 sites on two study reaches as described in Harris and Lindquist 2000b.

Frequency: Every five years.

#### g. Geomorphology (Sensitive Site Investigation & Mitigation Plan Development)

Method: A detailed investigation of fluvial geomorphic properties of the following reaches shall be carried out:

- Caples Creek below the confluence of the Caples Lake Spillway channel to the Jake Schneider Meadow
- Caples Lake Spillway Channel
- Oyster Creek from Silver Lake to below the confluence with the Silver Fork.

In Caples Creek, the site investigation shall include, at the minimum, bedload transport, thalweg longitudinal profile, bank erosion pins, and analysis of plain form (bar and flood plain feature) strata. EID shall consider and develop mitigation measures (other than streamflow releases) to correct channel stability problems.

EID shall provide annual site investigation reports to the FS, ERC, the Chief of the Division of Water Rights and CDFG and shall include any recommended measures proposed by EID to correct channel stability problems.

Frequency: Years 1 and 2.

#### h. Geomorphology (Continuing Evaluation of Representative Channel Areas)

Method: Establishment and monitoring of permanent cross-section transects, longitudinal profiles, and channel properties in representative channel areas. Measurement of cross-section profile and substrate composition at each transect. The following sites shall be evaluated:

- Lower Echo Creek

- SFAR below the diversion dam
- Silver Fork at Forgotten Flat
- Caples Creek all three reaches + spillway channel
- Oyster Creek below Highway 88

Frequency: Years 5, 10, 15, 20, 25, 30

EID shall provide annual monitoring reports to the FS, ERC, the Chief of the Division of Water Rights and CDFG and shall include any recommended changes in the monitoring proposed by EID.

#### 14. Water Temperature Monitoring Plan

EID shall, within one year after license issuance, develop and file with Chief of the Division of Water Rights for approval a Water Temperature Monitoring Plan. EID shall consult with the ERC, CDFG, and the FS in development of the plan. Once the plan is approved by the Chief of the Division of Water Rights and the FS, EID shall file the plan with the Commission for its approval. Once the plan is approved by the Commission, EID shall implement the monitoring plan within one year.

EID shall conduct stream temperature monitoring at existing or selected stream gaging sites or specific stream segments. The Chief of the Division of Water Rights and the FS shall determine the monitoring sites in consultation with the ERC and CDFG. EID shall use continuous and in some cases redundant recorders. Reservoir temperature profiles may be added if the Chief of the Division of Water Rights in consultation with the FS, ERC, and CDFG determine that reservoir temperatures are a controllable factor and a temperature problem is identified.

Frequency: For streams, all years after license issuance until a subsequent license is issued or until EID demonstrates and the Chief of the Division of Water Rights determines, in consultation with the FS, CDFG, and the ERC that operation of the Project 184 reasonably protects the cold freshwater beneficial use. For reservoirs, only if the Chief of the Division of Water Rights determines, in consultation with the FS, CDFG and the ERC, that monitoring may be necessary to ensure protection of beneficial uses. Some temperature stations may be deleted if FS and the Chief of the Division of Water Rights find sufficient temperature data have been collected and no temperature issue exists for the relevant stream reach.

EID shall provide annual temperature monitoring report by June 30<sup>th</sup> to the FS, ERC, the Chief of the Division of Water Rights and CDFG and shall include any recommended changes in the temperature monitoring proposed by EID.

#### 15. Water Quality Monitoring Plan

Method: EID shall develop a water quality monitoring plan subject to approval by the Chief of the Division of Water Rights to monitor selected water quality parameters such

as total suspended solids, turbidity, dissolved oxygen, pH, alkalinity, nitrate, total coliform, fecal coliform, and copper using standard methods. Except for fecal coliform and total coliform, which shall be collected May through September the first year and require repetitive sampling (over a 30-day period), samples shall be collected and analyzed eight times per year during the calendar years 1, 3, and 5 following license issuance (March, May, June, July, August, September, first storm of winter season, and December) and quarterly during the other monitoring years (March, June, September, and December) at the following stations:

- Echo Creek below Echo Lake Dam
- Pyramid Creek below Lake Aloha Dam
- Caples Creek below Caples Lake Dam
- Silver Fork American River below Silver Lake Dam
- SFAR upstream of Kyburz Diversion Dam
- SFAR downstream of Kyburz Diversion Dam
- Carpenter Creek above Carpenter Creek Diversion Dam
- Carpenter Creek below Carpenter Creek Diversion Dam
- No Name Creek above No Name Creek Diversion Dam
- No Name Creek below No Name Creek Diversion Dam
- Alder Creek above Alder Creek Diversion Dam
- Alder Creek below Alder Creek Diversion Dam
- Mill Creek above Mill Creek Diversion Dam
- Mill Creek below Mill Creek Diversion Dam
- Bull Creek above Bull Creek Diversion Dam
- Bull Creek below Bull Creek Diversion Dam
- Ogilby Creek above Ogilby Creek Diversion Dam
- Ogilby Creek below Ogilby Creek Diversion Dam
- Esmeralda Creek above Esmeralda Creek Diversion Dam
- Esmeralda Creek below Esmeralda Creek Diversion Dam

Frequency: Years 1, 3, and 5 with subsequent year sampling frequency to be determined by the Chief of the Division of Water Rights in consultation with the FS and the ERC. Monitoring in the first, third, and fifth years provides for the evaluation of changes in water quality with changes in the streamflow regime. Some water quality parameters and/or stations may be deleted after sufficient data are collected to indicate lack of a water quality issue. The State Water Board reserves the right to require additional years of water quality monitoring should the monitoring reports identify any non-compliance with Basin Plan objectives.

EID shall provide annual water quality monitoring reports by June 30<sup>th</sup> to the FS, ERC, Regional Water Quality Control Board, Chief of the Division of Water Rights and CDFG and shall include any recommended changes in the monitoring proposed by EID.

## 16. Hazardous Substances Plan

Within one year of license issuance, EID shall file with the Commission a plan approved by the FS and the Chief of the Division of Water Rights for oil and hazardous substances storage and spill prevention and cleanup. In addition, during planning and prior to any new construction or maintenance not addressed in an existing plan, EID shall notify the FS, and the FS shall make a determination whether a plan approved by the FS for oil and hazardous substances storage and spill prevention and cleanup is needed. Any such plan shall be filed with the Commission.

At a minimum, the plan must require EID to (1) maintain in the Project area, a cache of spill cleanup equipment suitable to contain any spill from the Project; (2) to periodically inform the FS of the location of the spill cleanup equipment on National Forest System lands and of the location, type, and quantity of oil and hazardous substances stored in the Project area; and (3) to inform the FS, State Water Board and Regional Water Quality Control Board immediately of the nature, time, date, location, and action taken for any spill affecting National Forest System lands, any waterbody or adjoining property.

## 17. Modified Term 91

EID shall not divert under Permit No. 21112 water that was diverted to storage for purposes of hydroelectric power generation when satisfaction of inbasin entitlements required release of supplemental Project water by the Central Valley Project or the State Water Project.

a. Inbasin entitlements are defined as all rights to divert water from streams tributary to the Sacramento-San Joaquin Delta or the Delta for use within the respective basins of origin or the Legal Delta, unavoidable natural requirements for riparian habitat and conveyance losses, and flows required by the Board for maintenance of water quality and fish and wildlife. Export diversions and Project carriage water are specifically excluded from the definition of inbasin entitlements.

b. Supplemental Project water is defined as that water imported to the basin by the Projects plus water released from Project storage that is in excess of export diversions, Project carriage water, and Project inbasin deliveries.

The State Water Board may modify, rescind or replace this condition, on its own motion or in response to a petition by EID, as appropriate in response to the outcome in *El Dorado Irrigation District v. State Water Resources Control Board* (C046211, app. pending). If that case determines that Term 91 or a modified Term 91 cannot be used as a basis for assigning to EID its share of responsibility for meeting Delta water quality objectives, the State Water Board's actions under this paragraph may include development of an alternative condition assigning responsibility in a manner not in violation of the court's ruling.

## 18. Annual Review of Streamflow and Ecological Conditions

By April 30 of each calendar year, EID shall schedule and facilitate a meeting with the ERC, FS, CDFG, and State Water Board to review and discuss the results of implementing the conditions of this certification, as well as to discuss other issues related to preserving and protecting ecological values affected by the Project. EID shall provide an operations and maintenance plan for the year in which the meeting occurs to the ERC, FS, CDFG and State Water Board two weeks prior to the meeting. The meeting may also include the United States Fish and Wildlife Service. This meeting may be combined with the annual consultation meeting required by the FS in its 4e Conditions.

#### 19. Streamflow and Lake Level Information

EID shall make available to the public via toll-free telephone and internet information regarding lake levels and streamflows suitable for on-water recreation. EID shall, within one year of license issuance, submit a plan to the Commission that addresses, at a minimum, information on lake levels, real-time streamflows, simple staff gages, forecasting, and operations projections. The plan shall be reviewed by the ERC and approved by the Chief of the Division of Water Rights in consultation with the FS prior to filing with the Commission. Following approval, EID shall publish the minimum streamflow schedules from Condition No. 1 and current water year type information on EID's website.

At a minimum, EID shall provide hourly averages of streamflows for gages on the South Fork American River below Kyburz Diversion Dam and the Silver Fork American River, and shall, within four hours, post the information on EID's website for the current day and the prior seven days. All streamflow values shall be in cfs rounded to the nearest whole number, and plots or tables showing these data shall be labeled as follows: "These provisional data have not been reviewed or edited and may be subject to significant change."

20. If EID determines that any activities involving the construction or maintenance of recreational facilities, roads, canals or other project related facilities may result in the discharge of waste, including but not limited to any discharge of pollutants, or upon request of the Executive Officer of the California Regional Water Quality Control Board, Central Valley Region, EID shall file a report of waste discharge or an application for a National Pollutant Discharge Elimination System permit, as appropriate, for that construction or maintenance activity. EID shall comply with any requirements of the Porter-Cologne Water Quality Control Act with respect to that construction or maintenance activity, including any waste discharge requirements or other order or prohibition issued by the Regional Water Quality Control Board or the State Water Resources Control Board with respect to any discharge or threatened discharge of waste from that construction or maintenance activity.

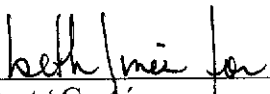
#### **General Terms and Conditions:**

1. In order to protect the beneficial uses designated in the Basin Plan, operation or maintenance of Project 184 shall not add the following substances to surface waters:

- Taste or odor-producing substances to impart undesirable tastes to domestic and municipal water supplies or odors to fish flesh or other edible products of aquatic origin or to cause nuisance or adversely affect beneficial uses;
  - Perceptible floating material including, but not limited to, solids, liquids, foams or scums which could result in degradation of water quality;
  - Suspended or settleable material in concentrations that cause a nuisance or adversely affect beneficial uses;
  - Oil, greases, waxes or other materials in concentrations that result in a visible film or coating on the surface of the water or on objects in the water;
  - Toxic pollutants present in the water column, sediments, or biota in concentrations that adversely affect beneficial uses; that produce detrimental response in human, plant, animal, or aquatic life; or that bioaccumulate in aquatic resources at levels which are harmful to human health; and,
  - Coliform organisms attributable to human wastes.
2. This certification applies only to EID's application for a new license for Project 184 described above. It is not intended and shall not be construed to apply to issuance of any other Commission license or license amendment.
  3. Prior to implementing any change to Project 184 that would have a significant or material effect on the findings, conclusions, or conditions of this certification, EID must obtain the written approval of the Chief of the Division of Water Rights.
  4. This certification is subject to modification or revocation upon administrative or judicial review, including review and amendment pursuant to Water Code section 13330 and California Code of Regulations, title 23, division 3, chapter 28, article 6 (commencing with § 3867).
  5. Any proposals for project maintenance or repair work involving the river, including desilting of the dam impoundment, impoundment drawdowns to facilitate repair or maintenance work, and tailrace dredging, shall be filed with the Chief of the Division of Water Rights for prior review and approval.
  6. In the event of any violation or threatened violation of the conditions of this certification, the violation or threatened violation shall be subject to any remedies, penalties, process or sanctions as provided for under state law. For purposes of section 401(d) of the Clean Water Act, the applicability of any state law authorizing remedies, penalties, process or sanctions for the violation or threatened violation constitutes a limitation necessary to assure compliance with the water quality standards and other pertinent requirements incorporated into this certification.

7. In response to a suspected violation of any condition of this certification, the State Water Board may require EID to furnish, under penalty of perjury, any technical or monitoring reports that 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.
8. In response to any violation of the conditions of this certification, the State Water Board may add to or modify the conditions of this certification as appropriate to ensure compliance.
9. Notwithstanding any more specific conditions in this certification, Project 184 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.
10. The State Water Board reserves authority to modify or revoke this certification if monitoring results indicate that continued operation of Project 184 would violate water quality objectives or impair the beneficial uses of the South Fork American River and project affected tributaries.
11. The State Water Board may add to or modify the conditions of this certification, as appropriate, to implement any new or revised water quality standards and implementation plans adopted or approved pursuant to the Porter-Cologne Water Quality Control Act or section 303 of the Clean Water Act.
12. The State Water Board may add to or modify the conditions of this certification as appropriate to coordinate the operations of this Project and other water development projects, where coordination of operations is reasonably necessary to achieve water quality standards or protect beneficial uses of water.
13. The State Water Board may add to or modify the conditions of this certification as appropriate to coordinate the operations of Project 184 with (1) water quality objectives adopted to protect the beneficial uses of the San Francisco Bay/Sacramento-San Joaquin Delta Estuary (Bay-Delta Estuary) or (2) water right decisions or orders implementing the objectives. The State Water Board will make such additions or modifications to this certification only when reasonably necessary to achieve the water quality objectives or protect the beneficial uses of water in the Bay-Delta Estuary.
14. This certification does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California or the federal Endangered Species Act. If a "take" will result from any act authorized under this certification, EID shall obtain authorization for the take prior to commencing construction. EID shall be responsible for meeting all requirements of the applicable Endangered Species Act for the project authorized under this certification.

15. The authorization to operate the project pursuant to this certification is conditioned upon payment of all applicable fees for review and processing the application for water quality certification and administering the State's water quality certification program, including but not limited to timely payment of any annual fees or similar charges that may be imposed by future statutes or regulations for the State's reasonable costs of a program to monitor and oversee compliance with conditions of water quality certification.

  
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Celeste Cantú  
Executive Director

Date: *April 4, 2006*



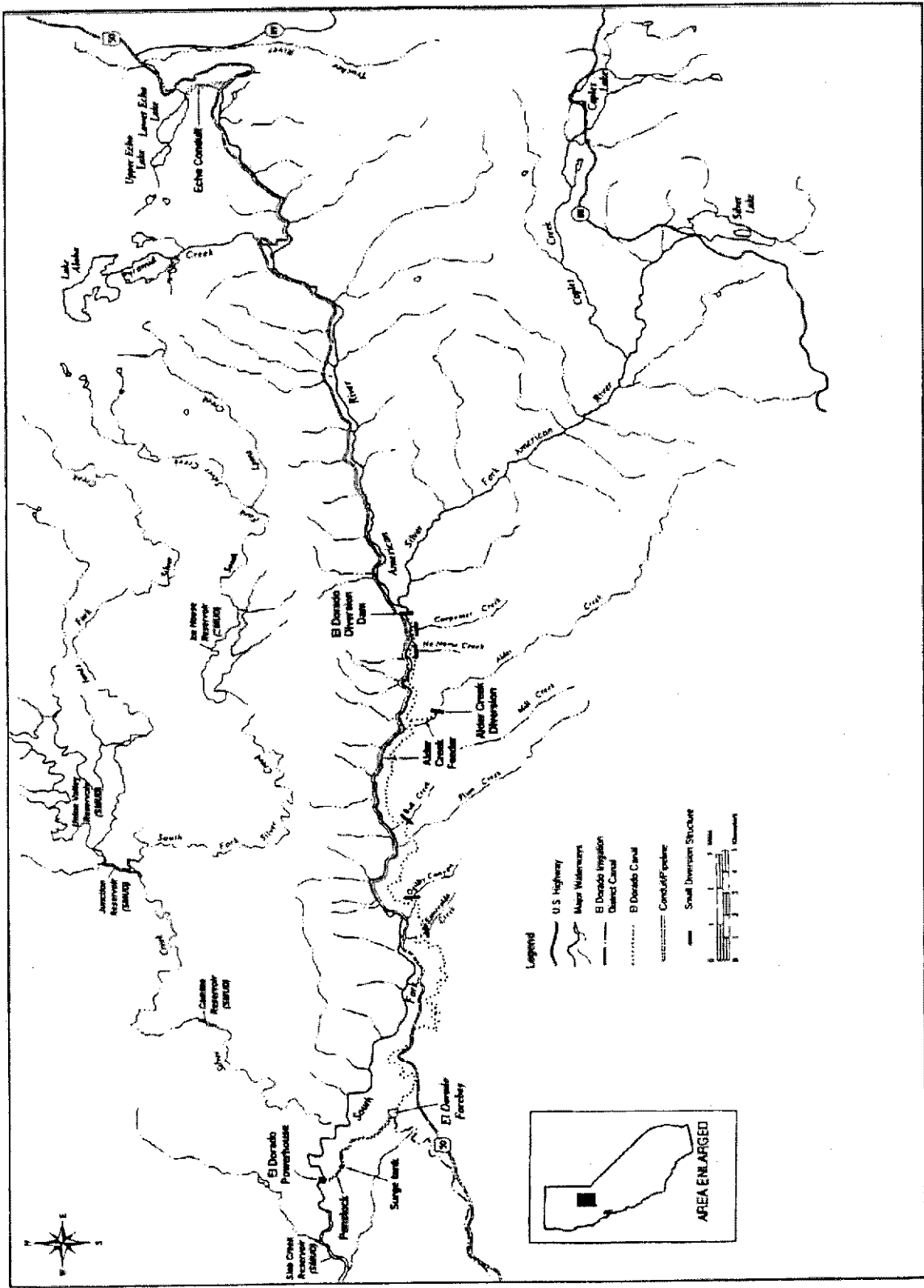


Figure 1