STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD

In the Matter of Water Quality Certification for

NEVADA IRRIGATION DISTRICT
YUBA-BEAR HYDROELECTRIC PROJECT

FEDERAL ENERGY REGULATORY COMMISSION PROJECT NO. 2266

Sources: South Yuba River, Middle Yuba River, Bear River

Counties: Sierra, Nevada, and Placer

WATER QUALITY CERTIFICATION FOR FEDERAL PERMIT OR LICENSE

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Common Acronyms and Abbreviations

AF	*acre-feet*
Bay-Delta Plan	*Water Quality Control Plan for the San Francisco Bay-Sacramento/San Joaquin Delta Estuary*
BMP	*best management practices*
CDFW	*California Department of Fish and Wildlife*
CDEC	*California Data Exchange Center*
Central Valley Regional Water Board	*Central Valley Regional Water Quality Control Board*
CEQA	*California Environmental Quality Act*
certification	*water quality certification*
cfs	*cubic feet per second*
Construction General Permit	*General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities*
Deputy Director	*Deputy Director of the Division of Water Rights*
DWR	*California Department of Water Resources*
DSOD	*California Division of Safety of Dams*
ESA	*Endangered Species Act*
FEIS	*Final Environmental Impact Statement*
FERC	*Federal Energy Regulatory Commission*
FLA	*Final License Application*
LWM	*large woody material*
MIFs	*minimum instream flows*
NID	*Nevada Irrigation District*
NMFS	*National Marine Fisheries Service*
Project	*Yuba-Bear Hydroelectric Project*
Regional Water Boards	*Regional Water Quality Control Boards*
State Water Board	*State Water Resources Control Board*
SR/SJR Basin Plan	*Water Quality Control Plan for Sacramento River Basin and San Joaquin River Basin*
TAF	*thousand acre-feet*
TMDL	*total maximum daily loads*
TRG	*Technical Review Group*
USACE	*United States Army Corps of Engineers*
USEPA	*United States Environmental Protection Agency*
USFWS	*United States Fish and Wildlife Service*
USFS	*United States Department of Agriculture, Forest Service*
USGS	*United States Geological Service*

1.0 Project Description

Nevada Irrigation District (NID or Licensee) owns and operates the Yuba-Bear Hydroelectric Project (Project), which is located on Middle Yuba, South Yuba, and Bear rivers, in Sierra, Nevada, and Placer counties (See Figure 1). The nearest major city to the Project is Nevada City located approximately 25 miles southwest of Bowman Lake. The Yuba and Bear rivers are tributaries to the Feather River and are part of the Sacramento River Basin, which drains to the San Francisco Bay through the Sacramento-San Joaquin Delta Estuary. The Project was initially licensed to operate by the Federal Power Commission, predecessor to the Federal Energy Regulatory Commission (FERC), on June 24, 1963.

The Project includes: 13 main dams (18 including minor diversion dams); 11 reservoirs or impoundments; four major water conduits; four powerhouses with associated switchyards; one transmission line; and 13 recreation facilities. Portions of the Project are on federal lands managed by the United States Department of Agriculture, Forest Service (USFS) as part of the Tahoe National Forest, and a smaller portion on federal lands administered by the United States Department of Interior Bureau of Land Management (BLM) as part of the Sierra Resource Management Area.

Figure 2: *Schematic of the Yuba-Bear Project Operations* illustrates how water flows though the Project. Water generally flows through the Project as follows:

- Canyon Creek, Jackson Creek, Wilson Creek, and the Middle Yuba River discharge into Bowman Lake.
    - Canyon Creek: From upstream to downstream water is released from French Lake (usable storage capacity of 13,940 acre-feet (AF)) at French Dam; Faucherie Lake (usable storage capacity of 13,740 AF) at Faucherie Dam, and Sawmill Lake (usable storage capacity of 3,030 AF) at Sawmill Dam. From Sawmill Dam, water is released into Canyon Creek and is impounded in Bowman Lake (usable storage capacity of 68,363 AF).
    - Jackson Creek: Water is released from Jackson Lake (usable storage capacity of 1,334 AF) at Jackson Dam which discharged into Bowman Lake.
    - Wilson Creek: Water is diverted via the Wilson Creek Diversion Dam into the Milton-Bowman Diversion Conduit (maximum flow capacity of 450 cubic feet per second (cfs)), which discharges into Bowman Lake.
    - Middle Yuba River: Water is released from Jackson Meadows Reservoir (usable storage capacity of 67,435 AF) at Jackson Meadows Dam into the Middle Yuba River where a portion is diverted via the Milton Diversion Dam through the Milton-Bowman Diversion Conduit, which discharges into Bowman Lake.
- Bowman Lake: Water is stored and released from Bowman Lake (behind Bowman Dam) through the Bowman Powerhouse into the Bowman-Spaulding Conduit (maximum flow capacity of 300 cfs), which discharges into Pacific Gas and Electric Company's (PG&E) Upper Drum-Spaulding Hydroelectric Project's (Upper Drum Project; FERC Project No. 2310) Fuller Lake. Along the Bowman-

Spaulding Conduit there are five small diversion structures on Texas, Clear, Fall, Trap, and Rucker creeks, known as “feeders”, that also supply water to the conduit. These feeders augment flow in the conduit up to the conduit’s capacity. Flow from the feeders that exceeds the conduit’s capacity spills the into their respective natural drainages. Canyon, Texas, Fall, Clear, Trap, and Rucker creeks flow into the South Yuba River.

- Bear River: Water from NID’s Dutch Flat No. 2 Powerhouse and PG&E Upper Drum Project’s Dutch Flat No. 1 Powerhouse discharge into the Project’s Dutch Flat Afterbay located on the Bear River, where the water is then delivered via the Chicago Park Flume (maximum flow capacity of 1,100 cfs) to the Project’s Chicago Park Powerhouse by way of the Project’s Chicago Park Forebay. Daily flow releases are scheduled based on downstream consumptive demand for NID and Placer County Water Agency raw water and municipal customers and discretionary hydroelectric power generation. The Chicago Park Powerhouse discharges into the Bear River roughly one mile upstream of the Project’s Rollins Reservoir.
- Rollins Reservoir (also known as Rollins Lake): With a gross storage capacity of roughly 59,000 AF, Rollins Reservoir is the Project’s major low-elevation storage reservoir. Rollins Reservoir is a multipurpose facility that meets municipal, irrigation, and domestic water supply, recreation, and power generation needs. Water released from Rollins Reservoir is impounded in PG&E’s Upper Drum Project Bear River Canal Diversion Impoundment and Dam where it is either diverted through the Bear River Canal for water deliveries or continues down the Bear River.

Under its existing FERC license, NID releases minimum flows from Jackson Meadows Reservoir, Milton Diversion Impoundment, Jackson Lake, French Lake, Bowman-Spaulding Conduit, Dutch Flat Afterbay, and Rollins Reservoir. NID maintains minimum pool elevations at Jackson Meadows Reservoir, Milton Diversion Dam Impoundment, and Rollins Reservoir.

In addition to its request to continue to operate the Project under a new license for 50 years, NID proposes to: expand the existing Rollins Development to add the Rollins No. 2 Powerhouse; add five new streamflow gages; and replace, upgrade, or install new recreation facilities. NID also proposes to adjust the FERC Project boundary to account for the new and upgraded facilities and infrastructure (e.g., Project areas are being removed and added for various roads, campgrounds, pipelines, etc.).

Additional information on the Project facilities, current Project operations, and NID’s proposed Project operations can be found in Exhibits A and B of NID’s April 14, 2011 Final License Application (FLA) (NID, 2011a), as updated by subsequent filings including but not limited to its: 1) September 23, 2011 filing, amending the FLA to include recreational use and visitor information surveys (NID, 2011b); 2) June 18, 2012 filing, amending the FLA to include updates to protection, mitigation, and enhancement (PM&E) measures, the FERC boundary, and correcting hydrology information that was included in the FLA (NID, 2012b); 3) May 19, 2014 filing, updating Project information based on USFS revised 4(e) conditions (NID, 2014b); and 4) December 21, 2018

amendment addressing potential Project effects to federal Endangered Species Act (ESA)-listed species and their designated critical habitat (NID, 2018b).

Water Rights
Table A below lists the water rights held by NID for the Project.

Table A. Water Rights Held by NID for the Project

Application or Statement No.	Source	Priority Date	Place of Storage or Diversion	Purpose of Use
S004716	Canyon Creek	1878	Sawmill Lake	Domestic, Irrigation, Power
S004717	Canyon Creek	1859	French Lake	Domestic, Irrigation, Power
S010591	Damfine Spring	1967	Jackson Meadows Campground	Domestic
S010592	Unnamed Tributary to Pass Creek	1967	Jackson Meadows Campground	Domestic
S013330	Middle Yuba River	1854	Milton Diversion Impoundment	Domestic, Irrigation, Mining, Recreational, Stockwatering, Fire Protection, Incidental Power
S013800	Canyon Creek	1872	Bowman Reservoir	Domestic, Irrigation, Mining, Recreational, Stockwatering, Fire Protection, Power
S013801	Canyon Creek	1872	Faucherie Lake	Domestic, Irrigation, Mining, Recreational, Stockwatering, Fire Protection, Power, Industrial, Municipal
S013927	South Yuba River	1874	PG&E's South Yuba Canal	Domestic, Irrigation, Mining, Recreational, Stockwatering, Fire Protection, Power, Industrial, Municipal
S013928	South Yuba River	1874	PG&E's Drum Canal	Domestic, Irrigation
S014354	Bear River	1853	Rollins Reservoir	Power
S014355	Bear River	1853	PG&E's Bear River Canal	Domestic, Irrigation, Mining, Stockwatering, Fire Protection, Power
S014356	Canyon Creek	1872	Bowman Reservoir	Power

Application or Statement No.	Source	Priority Date	Place of Storage or Diversion	Purpose of Use
A001270 Licensed 7/10/1991	Jackson Creek, Canyon Creek, Texas Creek, Fall Creek, Trap Creek	5/7/1919	Jackson Lake, Faucherie Lake, Sawmill Lake, Bowman Lake, Bowman-Spaulding Conduit	Municipal, Domestic, Mining, Irrigation
A002275 Licensed 7/10/1991	Middle Yuba River	3/25/1921	Jackson Meadows and Bowman Reservoir	Power
A002276 Licensed 7/10/1991	Middle Yuba River	3/25/1921	Jackson Meadows and Bowman Reservoir	Domestic, Irrigation, Mining
A002372 Licensed 7/10/1991	Jackson Creek, Canyon Creek, Texas Creek, Fall Creek, Trap Creek	6/3/1921	Jackson Lake, Faucherie Lake, Sawmill Lake, Bowman Lake, Bowman-Spaulding Conduit	Power
A002652A Licensed 11/26/1968	Bear River	11/22/1921	Rollins Reservoir	Irrigation, Domestic, Recreational, Incidental Power
A002652B License in Progress	Bear River	11/22/1921	Rollins Reservoir	Irrigation, Domestic, Recreational
A004309 Licensed 2/11/1957	Middle Yuba River, Canyon Creek, others not listed	11/7/1924	PG&E's Drum Canal	Power
A004310 Licensed 12/15/1936	Middle Yuba River, Canyon Creek, others not listed	11/7/1924	PG&E's South Yuba Canal	Power

Application or Statement No.	Source	Priority Date	Place of Storage or Diversion	Purpose of Use
A005193 License in Progress	Middle Yuba River	9/8/1926	Jackson Meadows, Milton Reservoir, Bowman Reservoir	Irrigation, Domestic, Recreational
A006229 Licensed 1/20/1964	Bear River	3/26/1929	Bear River Canal	Irrigation, Domestic
A006701 Licensed 7/10/1991	Clear Creek, Fall Creek, Trap Creek	6/16/1930	Bowman-Spaulding Conduit	Power
A006702 Licensed 7/10/1991	Clear Creek, Fall Creek, Trap Creek	6/16/1930	Bowman-Spaulding Conduit	Irrigation
A008177 Licensed 7/10/1991	Wilson Creek	11/27/1934	Milton-Bowman Conduit, Bowman Lake	Irrigation, Domestic, Municipal
A008178 Licensed 7/10/1991	Texas Creek, Clear Creek, Fall Creek, Trap Creek, Rucker Creek	11/27/1934	Bowman-Spaulding Conduit	Power
A008179 Licensed 7/10/1991	Wilson Creek	11/27/1934	Milton-Bowman Conduit, Bowman Lake	Power
A008180 License in Progress	Texas Creek, Clear Creek, Fall Creek, Trap Creek, Rucker Creek	11/27/1934	Bowman-Spaulding Conduit, PG&E's Lake Spaulding	Irrigation, Domestic
A015525 Licensed 3/5/1973	South Yuba River	9/3/1953	PG&E's Lake Spaulding	Power

Application or Statement No.	Source	Priority Date	Place of Storage or Diversion	Purpose of Use
A020017 License in Progress	South Yuba River	3/6/1961	Rollins Reservoir	Irrigation, Domestic
A020072 License in Progress	Middle Yuba River	4/6/1961	Jackson Meadows and Bowman Reservoirs	Power
A021151 Licensed 4/19/1972	Bear River	2/5/1963	Chicago Park Flume	Power
A021152 Licensed 4/19/1972	Bear River	2/5/1963	Dutch Flat No. 2 Flume	Power
A024983 License in Progress	Bear River	1/9/1976	Rollins Reservoir	Power
A027559 License in Progress	Canyon Creek	10/22/1982	Bowman Reservoir	Power

2.0 Regulatory Authority

2.1 Water Quality Certification and Related Authorities

The federal Clean Water Act (33 U.S.C. §§ 1251-1387) was enacted "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." (33 U.S.C. § 1251(a).) The Clean Water Act relies significantly on state participation and support, in light of States' "primary responsibilities and rights" to "prevent, reduce, and eliminate pollution." (Id., § 1251(b).) Federal agencies must "co-operate with the State and local agencies to develop comprehensive solutions to prevent, reduce and eliminate pollution in concert with programs for managing water resources." (Id., § 1251(g).)

Section 401 of the Clean Water Act (33 U.S.C. § 1341) requires any applicant for a federal license or permit that may result in a discharge into navigable waters to provide the licensing or permitting federal agency with certification that the project will comply with state water quality laws. (*Id*., § 1341(a)(1), (d).) The state's certification may set conditions implementing Clean Water Act requirements, including the requirements of Section 303 of the Clean Water Act for water quality standards and implementation plans, or to implement "any other appropriate requirement of State law." (*Id*. § 1341(d).) Section 401 further provides that certification conditions shall become conditions of any federal license or permit for the project. *(Ibid.)* If the state agency denies certification, the federal agency cannot approve the project.

The State Water Resources Control Board (State Water Board) is the state agency responsible for Section 401 certification in California. (Wat. Code, § 13160.) The State Water Board has delegated authority to act on applications for certification to the Executive Director of the State Water Board. (Cal. Code Regs., tit. 23, § 3838, subd. (a).)

In addition, Water Code section 13383 provides the State Water Board with the authority to "establish monitoring, inspection, entry, reporting, and recordkeeping requirements… and [require] other information as may be reasonably required" for activities subject to certification under section 401 of the Clean Water Act that involve the diversion of water for beneficial use. The State Water Board delegated this authority to the Deputy Director of the Division of Water Rights (Deputy Director), as provided for in State Water Board Resolution No. 2012-0029 (State Water Board, 2012). In the *Redelegation of Authorities Pursuant to Resolution No. 2012-0029* memo issued by the Deputy Director on October 19, 2017, this authority is redelegated to the Assistant Deputy Directors of the Division of Water Rights (State Water Board, 2017b) .

NID filed an application for water quality certification (certification) with the State Water Board under section 401 of the Clean Water Act for the Project on March 15, 2012 (NID, 2012a). On January 25, 2019, the State Water Board denied NID's most recent application for certification (State Water Board, 2019a) because NID had not yet initiated the California Environmental Quality Act (CEQA) process, nor was the federal ESA consultation regarding the impact of the Project and other hydroelectric facilities in the watershed completed. NID did not petition for administrative reconsideration or judicial review of the denial.

On August 7, 2020, State Water Board staff requested comments from the Central Valley Regional Water Quality Control Board (Central Valley Regional Water Board) on the certification. (See Cal. Code Regs., tit. 23, § 3855, subd. (b)(2)(B).) No comments were received.

2.2 Water Quality Control Plans and Related Authorities

The State Water Board's certification for the Project must ensure compliance with the water quality standards in the Central Valley Regional Water Board's *Water Quality Control Plan for the Sacramento River Basin and the San Joaquin River Basin* (SR/SJR Basin Plan) (Central Valley Regional Board, 2018) and the *Water Quality Control Plan for the San Francisco Bay/ Sacramento-San Joaquin Delta Estuary* (Bay-Delta Plan) (State Water Boards, 2018). Water quality control plans designate the beneficial uses of water that are to be protected (such as municipal and industrial, agricultural, and fish and wildlife beneficial uses), water quality objectives for the reasonable protection of the beneficial uses and the prevention of nuisance, and a program of implementation to achieve the water quality objectives. (Wat. Code, §§ 13241, 13050, subds. (h), (j).) The beneficial uses, together with the water quality objectives contained in the water quality control plans, and applicable federal anti-degradation requirements, constitute California's water quality standards for purposes of the Clean Water Act. In issuing water quality certification for a project, the State Water Board must ensure consistency with the designated beneficial uses of waters affected by the project, the water quality

objectives developed to protect those uses, and anti-degradation requirements. (*PUD No. 1 of Jefferson County v. Washington Dept. of Ecology* (1994) 511 U.S. 700, 714-719.)

The nine Regional Water Quality Control Boards (Regional Water Boards) have primary responsibility for the formulation and adoption of water quality control plans for their respective regions, subject to State Water Board and United States Environmental Protection Agency (USEPA) approval, as appropriate. (Wat. Code, § 13240 et seq.) As noted above, the State Water Board may also adopt water quality control plans, which will supersede regional water quality control plans for the same waters to the extent of any conflict. (*Id*., § 13170.) Water quality control plans are updated on a triannual basis which includes public input and reevaluation of designated and potential beneficial uses and water quality objectives.

In March 2019, the State Water Board submitted to FERC the plans and policies included in the State's comprehensive plan for orderly and coordinated control, protection, conservation, development, and utilization of the water resources of the State. The submission includes the SR/SJR Basin Plan and the Bay-Delta Plan.

Sacramento and San Joaquin Rivers Basin Plan

The Regional Water Boards have primary responsibility for the formulation and adoption of water quality control plans for their respective regions, subject to State Water Board and USEPA approval, as appropriate. (Wat. Code, § 13240 et seq.) The State Water Board may also adopt water quality control plans, which will supersede regional water quality control plans for the same waters to the extent of any conflict. (*Id*., § 13170.) For a specified area, the water quality control plans designate the beneficial uses of water to be protected, water quality objectives established for the reasonable protection of those beneficial uses or the prevention of nuisance, and a program of implementation to achieve the water quality objectives. (*Id*., § 13241, § 13050, subds. (h), (j).) The beneficial uses together with the water quality objectives that are contained in the water quality control plans and state and federal anti-degradation requirements constitute California's water quality standards.

The Central Valley Regional Water Board adopted, and the State Water Board and USEPA approved, the SR/SJR Basin Plan. The SR/SJR Basin Plan designates the beneficial uses of water to be protected along with the water quality objectives necessary to protect those uses. The SR/SJR Basin Plan identifies beneficial uses for surface waters in the Yuba River, for sources to Englebright Reservoir, as: municipal and domestic supply; irrigation; stock watering; power; contact recreation; canoeing and rafting; other noncontact recreation; cold freshwater habitat; cold spawning habitat; and wildlife habitat. The SR/SJR Basin Plan identifies beneficial uses for surface waters in the Bear River as: municipal and domestic supply; irrigation; stock watering; power; contact recreation; canoeing and rafting; other noncontact recreation; warm freshwater habitat; cold freshwater habitat; warm migration; and cold migration. Additionally, the Bear River identified potential beneficial uses as warm migration; cold migration; warm spawning habitat; cold spawning habitat; and wildlife habitat.

Bay-Delta Plan

The Bay-Delta Plan establishes water quality objectives to protect beneficial uses of water in the San Francisco Bay/Sacramento-San Joaquin Delta Estuary (Bay-Delta) and tributary watersheds, including drinking water supply, irrigation supply, and fish and wildlife. The State Water Board adopts the Bay-Delta Plan pursuant to its authorities under the Porter-Cologne Water Quality Control Act (Wat. Code, § 13000 et seq.) and the federal Clean Water Act (33 U.S.C. § 1313).

The State Water Board has historically developed the water quality control plan for the Bay-Delta for several reasons. The Bay-Delta is a critically important natural resource that is both the hub of California's water supply system and the most valuable estuary and wetlands system on the West Coast. As diversions of water within and upstream of the Bay-Delta Estuary are a driver of water quality in the Bay-Delta watershed, much implementation of the Bay-Delta Plan relies on the combined water quality and water right authority of the State Water Board. In addition, the Bay-Delta falls within the boundaries of two Regional Water Boards. Having the State Water Board develop and adopt a water quality control plan that crosses Regional Water Board boundaries ensures a coordinated approach.

The beneficial uses in the Bay-Delta Plan are: municipal and domestic supply; industrial service supply; industrial process supply; agricultural supply; groundwater recharge; navigation; water contact recreation; non-contact water recreation; shellfish harvesting; commercial and sport fishing; warm freshwater habitat; cold freshwater habitat; migration of aquatic organisms; spawning, reproduction, and/or early development; estuarine habitat; wildlife habitat; and rare, threatened, or endangered species.

The existing Bay-Delta Plan does not allocate responsibility of meeting objectives to water diverters in the Yuba River; however, the State Water Board is developing Bay-Delta Plan amendments focused on the Sacramento River and its tributaries (including the Yuba River and Bear River), Delta eastside tributaries, Delta outflows, and interior Delta flows. This effort is referred to as the Sacramento/Delta Update to the Bay-Delta Plan.

Protection of the Bay-Delta ecosystem and its native aquatic species requires an integrated approach to effectively connect upstream suitable cold water nursery habitat, floodplains, tidal marshland, and turbid open water habitats in the Delta and Bay – and to connect those environments to the ocean. Accordingly, the Sacramento/Delta Update to the Bay-Delta Plan would provide for a flow regime that supports a connected and functioning ecosystem linking and integrating inflow, cold water habitat, Delta outflow, and interior Delta flow measures with complementary physical habitat restoration and other nonflow measures. Changes are proposed to the water quality objectives, including narrative and numeric flow objectives, and the program of implementation for those objectives, as well as changes to monitoring, reporting, and assessment requirements. All water users on Bay-Delta tributaries would bear responsibility for achieving the tributary flow objectives and for contributing to the Delta outflow objectives, including diverters upstream and in the Delta. The State Water

Board is aware of, and encourages, the ongoing negotiations between interested stakeholders and various other state agencies to achieve voluntary solutions that may implement an updated Bay-Delta Plan. The State Water Board anticipates that, if NID desires, it will file a request to amend this certification, as necessary, in order to implement any voluntary solution to meet updated Bay-Delta Plan requirements.

2.3 Clean Water Act Section 303(d) Listing

The State Water Board listed portions of the Project in the *California's 2014 and 2016 California Integrated Report (Clean Water Act Section 303(d) List / 505(b) Report)* (2014/2016 Integrated Report) (State Water Board, 2017c) as follows:

- South Yuba River (Lake Spaulding to Englebright Reservoir) is listed for mercury, chromium, copper, iron, and water temperature.
- Bear River (from Rollins Lake to Camp Far West Reservoir) is listed for mercury.

Section 303(d) of the Clean Water Act requires total maximum daily loads (TMDLs) to be developed for impaired water bodies. TMDLs are written plans that define the maximum amount of a pollutant that a water body can receive without exceeding water quality standards and establish load allocations for point and nonpoint sources of pollution.

2.4 Construction General Permit

NID may need to obtain coverage under the ***General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities*** (Construction General Permit)[1] (State Water Board, 2009) for activities that disturb one or more acres of soil or whose projects disturb less than one acre but are part of a larger common plan of development that in total disturbs one or more acres. Construction activities subject to the Construction General Permit includes clearing, grading, and disturbances to the ground, such as stockpiling or excavation, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility.

2.5 State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State

On April 2, 2019, the State Water Board adopted the ***State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State***[2]

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[1] Water Quality Order No. 2009-0009-DWQ and National Pollutant Discharge Elimination System No. CAS000002, as amended by Order No. 2010-0014-DWQ and Order No. 2012-0006-DWQ. Available online at: https://www.waterboards.ca.gov/water_issues/programs/stormwater/construction.html. Last accessed August 11, 2020.

[2] State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State. (State Water Board 2019). Available online at: https://www.waterboards.ca.gov/water_issues/programs/cwa401/docs/procedures_conformed.pdf. Last accessed August 11, 2020.

(Procedures) (State Water Board, 2019b), which became effective on May 28, 2020. The Procedures provide California's definition of wetland, wetland delineation procedures, and procedures for submitting applications for activities that could result in discharges of dredged or fill material to waters of the state. The Procedures ensure that State Water Board regulatory activities will result in no net loss of wetland quantity, quality, or permanence, compliant with the *California Wetlands Conservation Policy*, Executive Order W-59-93. NID must comply with the Procedures when conducting dredge or fill activities that may impact waters of the state, including wetlands.

2.6 Aquatic Weed Control General Permit

The ***Statewide National Pollutant Discharge Elimination System Permit for Residual Aquatic Pesticide Discharges to Waters of the United States from Algae and Aquatic Weed Control Applications*** (Aquatic Weed Control General Permit)[3] (State Water Board, 2013) applies to projects that require aquatic weed management activities. The Aquatic Weed Control General Permit sets forth detailed management practices to protect water quality from pesticide and herbicide use associated with aquatic weed control.

2.7 Statewide Mercury Provisions

On May 2, 2017, the State Water Board adopted Resolution No. 2017-0027, which approved *Part 2 of the* ***Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California—Tribal and Subsistence Fishing Beneficial Uses and Mercury Provisions*** (State Water Board, 2017a).[4] Resolution No. 2017-0027 provides a consistent regulatory approach throughout the state by setting mercury limits to protect the beneficial uses associated with the consumption of fish by both people and wildlife. The State Water Board also established definitions for the following three new beneficial uses (tribal traditional culture, tribal subsistence fishing, and subsistence fishing) for use by the State Water Board and Regional Water Boards. The State Water Board also approved one narrative and four numeric mercury objectives to apply to inland surface waters, enclosed bays, and estuaries of the state that have any of the following beneficial use definitions: commercial and sport fishing, tribal traditional culture, tribal subsistence fishing, wildlife habitat, marine habitat, preservation of rare and endangered species, warm freshwater habitat, cold freshwater habitat, estuarine habitat, or inland saline water habitat, with the exception of waterbodies or waterbody segments with site-specific mercury objectives. These provisions will be implemented through National Pollution Discharge Elimination System permits, water quality certifications, waste discharge requirements, and waivers of waste discharge requirements.

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[3] Water Quality Order No. 2013-0002-DWQ and NPDES No. CAG990005, as amended by Order No. 2014-0078-DWQ, Order No. 2015-0029-DWQ, Order No. 2016-0073-EXEC, and any amendments thereto. Available online at: https://www.waterboards.ca.gov/water_issues/programs/npdes/pesticides/weed_control.html. Last accessed August 11, 2020.

[4] Available online at: https://www.waterboards.ca.gov/water_issues/programs/mercury/ Last accessed: August 11, 2020.

3.0 California Environmental Quality Act

NID is the lead agency for the purposes of CEQA compliance. (Pub. Resources Code, §§ 21000 – 21177). The State Water Board is a responsible agency for the Project. As of the date of certification, NID has not initiated the CEQA process by issuing a Notice of Preparation and has not certified an environmental impact report or other environmental document in compliance with CEQA requirements. On June 29, 2020, Governor Newsom signed into law amendments to the Water Code that provide the State Water Board with the ability to issue water quality certifications prior to completion of CEQA review, where failure to issue certification presents a substantial risk of waiver of authority. See Wat. Code, sec. 13160, subd. (b)(2), as amended by Stats. 2020, ch. 18, § 9.

Here, FERC issued an order on April 16, 2020, approving NID's request to find that the State Water Board has waived certification, even though the State Water Board took steps to preserve its certification authority and could not have issued certification because NID has not prepared the necessary CEQA documents. The State Water Board disagrees with FERC's decision and requested rehearing, which FERC dismissed on July 21, 2020. Nevertheless, FERC's decision highlights the potential for certification to be waived if the State Water Board waits to issue certification until completion of CEQA, even though the timing of CEQA review is under the control of the applicant, not the State Water Board. The requirements of this certification do not become effective as conditions required to be included in the FERC license unless and until FERC sets aside the determination of waiver or is required to do so by court order, or there is another judicial or administrative action finding that FERC improperly found waiver of the State Water Board's certification authority.

The issuance of this certification does not obviate NID's or the State Water Board's obligations under CEQA, and the State Water Board, pursuant to Water Code section 13160, subdivision (b)(1), reserves authority to reopen and revise this certification "as appropriate to incorporate feasible measures to avoid or reduce significant environmental impacts or to make any necessary findings based on the information provided in the environmental document prepared for the Project. If the State Water Board exercises this authority, it will file a Notice of Determination with the State Clearinghouse within five days of issuance of an amended certification.

4.0 Rationale for Water Quality Certification Conditions

Water development projects in the Middle Yuba, South Yuba, and Bear River basins, including the Project, have resulted in reductions in flows and alterations in the flow regime that adversely affect water quality. Similarly, water development projects throughout the Sacramento River Basin, including the Project, have adversely altered flows in the larger stream system and the Sacramento/San Joaquin River Delta. The certification conditions were developed to ensure that the Project complies with water quality requirements and other appropriate requirements of state law, including protecting beneficial uses of California's waters by complying with water quality objectives in water quality control plans and other applicable water quality requirements. Section 401 of the federal Clean Water Act (33 U.S.C. § 1341) provides that this certification's conditions be incorporated as mandatory conditions of the new license issued by FERC for the Project.

When preparing the conditions in this certification, State Water Board staff reviewed and considered:

- NID's applications for certification (NID, 2012a) (NID, 2013) (NID, 2014a) (NID, 2015) (NID, 2016) (NID, 2017) (NID, 2018a);
- NID's FLA and associated updates and amendments thereto (listed and cited earlier in this certification);
- FERC's *Final Environmental Impact Statement for Hydropower License – Upper Drum-Spaulding Hydroelectric Project – Project No. 2310-193, Lower Drum Hydroelectric Project – Project No. 14531-000, Deer Creek Hydroelectric Project – Project No. 14530-000, and Yuba-Bear Hydroelectric Project– Project No. 2266* (FEIS) (FERC, 2014);
- California Department of Fish and Wildlife's (CDFW) Federal Power Act Section 10(j) and 10(a) Recommendations (CDFW, 2012);
- National Marine Fisheries Service's (NMFS) Federal Power Act Section 18 Fishway Prescriptions and Section 10(j) Conditions (NMFS, 2012);
- United States Fish and Wildlife Service (USFWS) Informal Consultation (USFWS, 2019);
- USFS's Final and Revised Section 4(e) Conditions (USFS, 2013f) (USFS, 2014c);
- BLM's Final Section 4(e) Conditions and 10(a) recommendations (BLM, 2014);
- NID's May 19, 2014 letter updating its Project description based on USFS's Revised Section 4(e) Conditions (NID, 2014b);
- Comments associated with the aforementioned documents;
- Beneficial uses and associated water quality objectives in the SR/SJR Basin Plan (Central Valley Regional Board, 2018);
- Final 2014/2016 California Integrated Report (Clean Water Act Section 303(d) List/305(b) Report) (State Water Board, 2017c);
- Project-related controllable water quality factors; and

- Other information in the record.

The following describes the rationale used to develop the conditions in this certification.

Rationale for Condition 1 – Flows

Instream flows provide habitat for fish and wildlife, contribute to scenic and aesthetic qualities of natural settings, and help support beneficial uses and water quality objectives for surface waters as established in the SR/SJR Basin Plan. The approach for developing flow requirements, including ramping rates and spill reductions (Conditions 1, 2, and 6), for Project-affected stream reaches included consideration of the aquatic-dependent biota (primarily fish, amphibians, benthic macroinvertebrates (BMI), and riparian vegetation) that are currently and/or potentially present, hydroelectric energy generation, and water supply, as well as an evaluation of ecosystem conditions under existing and unimpaired streamflow using an operations model[5] and technical information developed during Project relicensing (including study results from relicensing studies). Additionally, potential future changes in precipitation/ snowmelt magnitude and timing were also considered as flows were developed.

State Water Board staff participated in relicensing discussions regarding Project-related minimum instream flows (MIFs). During relicensing, NID and most relicensing participants reached agreement on MIFs for 14 of the 15 Project-affected stream reaches[6], which include:

1. Middle Yuba River below Jackson Meadow Reservoir Dam (Table 1);
2. Middle Yuba River below Milton Diversion Dam (Table 2);
3. Wilson Creek below Wilson Creek Diversion Dam (Table 3);
4. Jackson Creek below Jackson Lake Dam (Table 4);
5. Canyon Creek below French Lake Dam (Table 5);
6. Canyon Creek below Faucherie Lake Dam (Table 6);
7. Canyon Creek below Sawmill Creek Dam (Table 7);
8. Canyon Creek below Bowman-Spaulding Diversion Dam (Table 8);
9. Texas Creek below Texas Creek Diversion Dam (Table 9);
10. Clear Creek below Bowman-Spaulding Conduit (Table 10);
11. Fall Creek below Fall Creek Diversion Dam (Table 11);
12. Trap Creek below Bowman-Spaulding Conduit (Table 12);
13. Rucker Creek below Bowman-Spaulding Conduit (Table 13);
14. Bear River below Dutch Flat Afterbay Dam (Table 14); and

[5] The model was run using two water delivery scenarios: one assumed current water demand based on water delivery by NID and PCWA for water years 2001-2009; the second used water demand projected 50 years in the future, 2062. The various operating scenarios were applied to the water year conditions for the period of record, 1976-2008.

[6] NID and relicensing participants did not reach agreement on MIFs for Fall Creek below Fall Creek Diversion Dam (Table 11).

15. Bear River below Rollins Dam (Table 15).

Condition 1 requires MIFs for the Project-affected stream reaches (listed above) that are designed to protect and enhance environmental and public resources and are consistent with those proposed by NID and agreed to by most relicensing participants for 14 of the 15 stream reaches. NID proposed lower MIFs at Fall Creek below Fall Creek Diversion Dam than those proposed by USFS and CDFW. The State Water Board is requiring the flows proposed by USFS and CDFW at Fall Creek for the enhancement of aquatic resources in Fall Creek below the Bowman-Spaulding Conduit and the South Yuba River with an addition. Specifically, NID's proposal to allow inflow to equal outflow when inflow is less than the required MIF is also incorporated into the MIFs at Fall Creek below Fall Creek Diversion Dam.

Consultation is also needed with NID and state and federal agencies to fully assess current and potential future flow alterations in the Project-affected stream reaches (identified above). To allow for assessment of these changes and for additional consultation, Condition 1 requires NID to initiate consultation on flows with CDFW, USFWS, USFS, NMFS, State Water Board staff, and if applicable, BLM. Such consultation would occur no later than 10 years following license issuance, or earlier at the direction of the Deputy Director based on review of environmental monitoring data (Condition 5) and/or adoption of any future amendments to the Bay-Delta Plan that address flows. The consultation shall also address what, if any, Project operational change must be implemented.

Rationale for Condition 2 – Ramping Rates

Ramping rates are necessary to protect aquatic species such as rainbow trout and foothill yellow-legged frogs, which are sensitive to sudden water elevation changes. During relicensing, NID and most relicensing participants reached agreement on ramping rates for three Project-affected stream reaches: Middle Yuba River below Milton Diversion Dam; Canyon Creek below Bowman-Spaulding Diversion Dam; and Bear River below Dutch Flat Afterbay Dam[7]. Condition 2 requires implementation of NID-proposed ramping rates at these three locations for the protection and enhancement of aquatic species affected by sudden changes in water depth and flow.

Condition 2 also requires ramping rates on the Bear River below Rollins Dam, to address concerns regarding the stranding of foothill yellow-legged frog egg masses after significant stream flow changes. As stranding of foothill yellow-legged frog egg masses in the Bear River below Rollins Dam was not directly addressed during the relicensing process, Condition 2(D) requires NID to consult with the State Water Board and CDFW to discuss what Project operations may be affecting reported stranding

[7] During the relicensing process it was identified that many of the Project dams and diversions either did not have the operational capability to effectively ramp flows or that it was not feasible to require ramping rates or spill reduction measures at those locations.

events and, if its determined that Project operations are related to frog egg mass stranding events, to implement ramping rates or other modifications as needed.

Rationale for Condition 3 – Water Year Types

Condition 3 requires implementation of NID's proposed water year types, which were developed during the relicensing process and generally agreed upon by most relicensing participants with one exception. NID's water year type proposal included an allowance in which a Critically Dry water year would be changed to an Extremely Critically Dry water year for specific stream reaches (i.e., Middle Yuba River below Milton Diversion Dam, Canyon Creek below Bowman-Spaulding Diversion Dam, and Bear River below Rollins Dam) in years that were preceded by a Critically Dry or Extremely Critically Dry water year. This allowance was not included in the certification. Rather, to allow for adaptive management of scare water resources and competing demands (e.g., water supply, MIFs, etc.) during times of shortage, the certification includes Condition 15 (Drought Planning) and Condition 18 (Extremely Dry Conditions). The Drought Management Plan would identify strategies and options for modifications to Project operations and requirements, if appropriate, during periods of extreme scarcity. Condition 18 allows NID to request modifications to instream flows and other requirements during times of extreme water scarcity (e.g., consecutive dry years).

Rationale for Condition 4 – Streamflow Gages

Streamflow gages are required to confirm MIFs and other flow related conditions of this certification. During relicensing, NID identified locations where there were no existing streamflow gage to measure flows, or where the current streamflow gages would not be able to measure the higher MIFs proposed for the Project. USFS's revised 4(e) condition 34 requires NID to implement its *Yuba-Bear Gaging Plan* developed and submitted to FERC on April 11, 2014 (USFS, 2014f). On May 19, 2014, NID agreed with USFS's revised 4(e) condition 34 (NID, 2014b). Certification Condition 4 requires NID to implement the USFS *Yuba-Bear Gaging Plan* with minor modifications to require implementation of streamflow gage monitoring within 90 days of license issuance, or within 15 days of any gage modifications needed to comply with the *Yuba-Bear Gaging Plan.* The streamflow gage condition enacts the measures agreed upon during the relicensing process that would ensure the Licensee properly measures streamflows.

Rationale for Condition 5 – Monitoring and Adaptive Management

Monitoring plans are necessary to develop information regarding aquatic resources in the Project area in response to changes in flow conditions anticipated in the new license. Condition 5 requires the development, in some cases, and implementation of monitoring plans to assess for Project-related impacts to fish populations, water temperature, bald eagles, foothill yellow legged frogs, channel morphology, BMI, riparian vegetation, and water quality. The methods and frequency of monitoring are designed to measure the response of resources to adjustments in streamflow and other conditions and to determine whether resource objectives are being met. These monitoring plans also allow the Deputy Director, based on reporting and other information, the flexibility to require adaptive management actions and to alter the methodologies or frequencies of data collection.

Monitoring for fish populations, agreed upon by NID and USFS (Condition 5A) will document fish population response to the new license conditions and assist in identifying long-term population trends and any Project-related impacts. Condition 5A requires electroshock sampling to provide data to assess potential Project-related impacts to fish populations over the term of the new license.

Water temperature monitoring (Condition 5B), agreed upon by NID and USFS, is important for determining compliance with state and federal water quality standards for temperature and examining long-term trends in water temperature as effected by changes in streamflow resulting from the Project. The objective of the water temperature monitoring plan is to monitor water temperature conditions in Project reservoirs and impoundments and Project-affected stream reaches and tributaries of the South Yuba, Middle Yuba and Bear River. Additionally, annual water temperature monitoring will provide information needed to determine whether water quality objectives are being met.

The Bald Eagle Monitoring Plan (Condition 5C), agreed upon by NID and USFS, is designed to ensure that Project operations and maintenance, as well as Project-related recreation activities, do not result in “take” of bald eagles, their eggs, or nests. Condition 5C ensures NID will implement measures to protect bald eagles, and their eggs or nests, consistent with federal and state laws and regulations.

Monitoring for foothill yellow-legged frogs (Condition 5D), agreed upon by NID and USFS, will assess response to flow-related changes in conditions during the new license (e.g., minimum flows, ramping rates, spill cessation, water temperatures, and aquatic habitat suitability) and provide for incidental observations of western pond turtles.

The Channel Morphology Monitoring Plan (Condition 5E), agreed upon by NID and USFS, is designed to provide information on whether new license conditions have an effect on channels in Project-affected stream reaches and that they are in proper functioning condition or whether they require additional monitoring or restoration in response to the new streamflow conditions.

Monitoring BMI assemblages (Condition 5F) will allow for the identification of changes in stream health conditions and provide an estimate of available food resources for fish populations and other aquatic predators.

The Riparian Vegetation Monitoring Plan (Condition 5G), agreed upon by NID and USFS, is designed to provide information on whether riparian areas in Project affected stream reaches are in proper functioning condition or whether they require additional monitoring or restoration in response to the new streamflow conditions.

The Water Quality Monitoring Plan (Condition 5H) is important to determine compliance with state and federal water quality standards and examine long-term trends in water quality. The objective of the Water Quality Monitoring Plan is to sample water quality above and below Project-affected stream reaches after five years of Project operations

under new license conditions and compare the results with pre-licensing water quality results. Additionally, the Water Quality Monitoring Plan will require sampling of water quality in the second year of sequential dry or drier water year types to monitor what the effect of lower flows and less storage in reservoirs may have on water quality below Project reservoirs. The Water Quality Monitoring Plan includes locations on the Middle Yuba River, Bear River, and tributaries to the South Yuba River.

Rationale for Condition 6 – Spill Cessation and Reduction
Sudden reductions in flows following spring snow-melt runoff or other major spill events can adversely affect aquatic organisms through stranding as water levels rapidly decrease causing exposure of previously inundated habitat. To minimize these adverse effects associated with Project operations, NID and relicensing participants agreed on implementation of spill cessation measures following spill events. Condition 6 includes spill cessation measures that better mimic a natural flow recession and provide aquatic organisms natural cues to adjust to the decreasing flows, thereby reducing the potential for stranding. Implementation of these spill cessation measures also reduces rapid flow fluctuations following other major flow events.

Another benefit of the spill cessation measures is that the flow schedule provides an opportunity for recreational whitewater boating (USFS, 2014c). Condition 14 requires recreational streamflow information to be publicly posted, which when combined with the spill cessation flows provided in Condition 6, will increase available whitewater boating opportunities.

Rationale for Condition 7 – Canal Outages
Canal outages are a necessary part of Project operations and maintenance and may also occur because of emergency situations. Condition 7 addresses MIF requirements during canal outages and notification of canal outage events to the State Water Board, USFS, BLM, USFWS, and CDFW. Additionally, Condition 7 requires implementation of the Canal Outages Fish Rescue Plan (USFS, 2013b) to address entrainment of rainbow trout and other fish species that may become stranded when canals are dewatered during outages.

Rationale for Condition 8 – Erosion and Sediment Control
Condition 8 includes provisions for the protection of water quality and beneficial uses associated with erosion and sediment control related to various activities including channel stabilization, canal releases, and construction and maintenance activities.

Condition 8(A) –Erosion and Sediment Control. On April 11, 2014, USFS filed with FERC an Erosion and Sediment Control Management Plan (USFS, 2014b) and on May 19, 2014, NID submitted a letter agreeing with the USFS filed Erosion and Sediment Control Management Plan (NID, 2014b). The plan references BLM and USFS best management practices (BMPs) to control site-specific erosion and sedimentation as well as emergency erosion control measures and protocols to control sedimentation during or after severe storm events with an emphasis on lands managed by USFS and BLM.

The plan does not include: consultation with CDFW, USFWS, and State Water Board staff; initial and periodic assessment and monitoring of erosion sites; criteria for prioritizing erosion sites for treatment; schedule of erosion and sediment control activities; process for documentation and reporting; and plan updates and adaptive management to ensure adequate control of Project-related erosion. Additionally, NID's plan focuses on lands managed by USFS and BLM rather than the broader Project area.

Condition 8(A) requires NID to update the Erosion and Sediment Control Management Plan filed with FERC on April 11, 2014 to include the above-identified elements, which are needed for the protection of water quality due to Project-related erosion to surface waters during the term of the new FERC license.

Condition 8(B) – Channel Stabilization. NID proposed a *Clear and Trap Creeks Channel Stabilization Plan*, which it included in Appendix E4 of the Amended FLA (NID, 2012b). The purpose of the plan is to restore eroded stream reaches of Clear and Trap creeks and Christmas Tree wasteway[8], which were damaged by historical operations of the Bowman-Spaulding Conduit.

The plan does not include the following USFS 4(e) requirements: consultation with CDFW, USFWS, and the State Water Board staff, initial and periodic assessment and monitoring of other reaches similarly affected by Project operations, criteria for prioritizing stabilization sites for treatment; a schedule of stabilization activities; process for documentation and reporting; and plan updates and adaptive management to ensure adequate control of Project-related erosion associated with channel stabilization activities.

Condition 8(B) requires updates to NID's proposed *Clear and Trap Creeks Channel Stabilization Plan* to include the above-identified elements, which are needed to protect water quality and beneficial uses related to erosion at Project-related channels during the term of the new FERC license.

Condition 8(C) – Canal Release Points. On April 11, 2014, USFS filed with FERC a *Canal Release Point Plan* (USFS, 2014b) and on May 19, 2014, NID submitted a letter agreeing with the USFS-filed *Canal Release Point Plan* (NID, 2014b). The Canal Release Point Plan provides information on the Project's canal drainage structures, release points, spill structures, and immediate downstream spillway channel (collectively referred to as "Canal Release Points") and establishes practices to minimize adverse impacts to water quality. The plan includes: an initial assessment and prioritization of potential canal release point treatment sites within two years of license issuance, periodic assessment and prioritization intervals every 10 years, operations and maintenance measures, reporting, and adaptive management to ensure adequate control of Project related erosion from canal release points.

[8] Christmas Tree wasteway is located between Clear Creek and the Bowman-Spaulding Conduit and captures water that overflows from the Bowman-Spaulding Conduit.

The plan does not include: consultation with CDFW, USFWS, and State Water Board staff; initial assessment by a qualified engineering geologist; consultation to determine appropriate treatment measures to implement; a schedule for treatment measure implementation; monitoring during treatment implementation; best management practices (BMPs) to protect water quality and beneficial uses during treatments; details of monitoring effectiveness of treatment measures following implementation; and documentation and reporting of monitoring results.

Condition 8 requires NID to update the Canal Release Point Plan filed with FERC on April 11, 2014, to include the above-identified elements, which are needed to protect water quality and beneficial uses due to erosion at Project canal release points during the term of the new FERC license.

Condition 8(D) – Water Quality Monitoring and Protection Plans. Protection of the instream beneficial uses identified in the SR/SJR Basin Plan requires effluent limitations and other limitations on discharges of pollutants from point and nonpoint sources to the Middle Yuba River, South Yuba River, Bear River, and their respective tributaries. Erosion from Project-related construction and maintenance activities has the potential to result in discharges that violate water quality standards. Condition 8(D) requires NID to comply with the Construction General Permit, as applicable, or to develop and implement Water Quality Monitoring and Protection Plans (WQMP Plans) to protect water quality and beneficial uses. WQMP Plans will be developed for construction and maintenance activities with the potential to cause erosion, stream sedimentation, release of hazardous materials, or otherwise impair water quality that are not covered by another condition of the certification.

Rationale for Condition 9 – Large Woody Material Management
Project facilities inhibit natural movement and recruitment of large woody material (LWM) in Canyon, Jackson, Texas, Fall, Clear, Trap, and Rucker creeks as well as the Bear, Middle and South Yuba rivers. Condition 9 requires the development and implementation of a LWM Management Plan to ensure the passage of LWM downstream of Project facilities as well as monitoring to evaluate the effectiveness of and inform adaptive management of LWM management throughout the term of the new FERC license.

Rationale for Condition 10 – Entrainment Prevention
The Milton-Bowman Diversion Conduit entrains resident trout from the Middle Yuba River in the Milton Diversion Impoundment. Entrainment of fish and other aquatic species into the Milton-Bowman Diversion Conduit reduces population recruitment and limits or fragments the aquatic genetic diversity in the watershed. CDFW writes in its Project recommended conditions that, "…impacts associated with entrainment, blocked passage, and habitat inundation caused by project facilities will not be fully mitigated by the new flow regime alone. [CDFW] recognize that in general, hatchery trout do not solve resource or habitat problems. Fisheries resources are restored by rehabilitating habitat, providing adequate stream flows, and maintaining conditions suitable for aquatic resource reproduction and growth within the aquatic ecosystem." (CDFW, 2012) Fish that would normally remain in the impoundment or move upstream into the Middle

Yuba River and re-populate fish populations are lost due to Project-related entrainment. Requiring screening of the Milton-Bowman Diversion Conduit during peak entrainment timeframes will help to reduce entrainment.

Rationale for Condition 11 – Aquatic Invasive Species Management

Aquatic invasive species cause harm to the diversity and abundance of native species through competition for resources, predation, parasitism, interbreeding with native populations, transmitting diseases, or causing physical or chemical changes to habitats. The impacts of aquatic invasive species can affect the overall function of aquatic ecosystems. Condition 11 requires NID to consult with USFS, BLM, CDFW, and State Water Board staff to develop an Aquatic Invasive Species Management Plan for the Project. Implementation of an Aquatic Invasive Species Management Plan is needed to minimize and prevent the introduction and establishment of aquatic invasive species, reduce the spread of existing aquatic invasive species, and monitor for aquatic invasive species in Project reservoirs and stream reaches. Implementation of the plan will also increase awareness and help educate the public on aquatic invasive species impacts, prevention measures, and management approaches.

Rationale for Condition 12 – Fish Stocking

Angling is one of the most popular activities associated with the Project, and stocking fish in Project reservoirs ensures that the recreational fishery will be maintained for the term of the new FERC license. Because of the high level of recreational angling that occurs in Project reservoirs, Condition 12 requires the implementation of a Fish Stocking Plan developed in consultation with CDFW, USFWS, and State Water Board staff that will allow adaptive management of the recreational fishery associated with the Project.

Rationale for Condition 13 – Recreation Facilities

NID proposes to improve and expand existing recreation facilities, develop new recreation facilities, and remove some recreation facilities. Proposed recreation facilities activities include: closing and gating informal boat ramps, providing low-water boating access, and reconstructing boat ramps to meet California Boating and Waterways standards. Condition 13 requires the development of a Recreation Facilities Management Plan to ensure water quality and beneficial uses are protected when recreational facilities modifications are implemented.

Rationale for Condition 14 – Recreation Streamflows and Information

Providing recreational streamflows and information (Condition 14) for reaches in the Project area will allow boaters and anglers to determine when streamflows are safe for their activities. Streamflow information that is delivered in instantaneous (i.e., 15-minute or more frequent) or hourly intervals will also provide important information that allows boaters and anglers to determine which way flows are trending or if flows are unusually erratic before attempting to boat or fish these reaches.

Real-time flow information will also enable boaters to take advantage of the spill cessation flows (Condition 6) for the Middle Yuba River below Milton Reservoir Dam and Canyon Creek below Bowman Dam. Streamflow information is also important for

boaters to be able to take advantage of the reservoir drawdown flows from Canyon Creek below French Dam when determining when to safely boat these reaches. NID has proposed to release streamflow specifically for whitewater boating that coincides with spill cessation flows on the Middle Yuba River and Canyon Creek, and an additional whitewater boating flow on Canyon Creek below French Lake Dam in September of each year (Condition 14).

The gage at Jackson Meadows Reservoir Dam provides the information on inflows into Milton Reservoir. Milton Reservoir is an important angling resource and flow releases from Jackson Meadows Reservoir Dam can significantly influence angling opportunities. This flow information will allow anglers to stay apprised of changing flow conditions.

Rationale for Condition 15 – Drought Planning

Developing and implementing a Drought Management Plan (Condition 15) is important for successful management of water resources to protect all beneficial uses in California's extremely variable climate, including extended drought. Multiple, successive dry years present difficult choices between releasing reservoir water to meet immediate demands (e.g., deliveries and instream flow requirements) or storing reservoir water for a future year to address the risk of additional dry year(s). The Drought Management Plan will identify strategies for managing water during times of extreme shortage.

Rationale for Condition 16 – Hazardous Substances

Development and implementation of a Hazardous Substances Plan (Condition 16) is necessary to ensure hazardous materials are properly stored, used, transported, managed, and disposed of in the Project area to minimize the impacts of hazardous materials on water quality, as well as sensitive species and their habitats. Condition 16 requires NID to develop and implement a Hazardous Substances Plan to address the storage, use, transportation, spill management, and disposal of hazardous materials used as part of the Project.

Rationale for Condition 17 – Coordinated Operations Plan

The Project both receives and discharges water that flows through PG&E's Upper Drum-Spaulding Hydroelectric Project and discharges water that flows into PG&E's Lower Drum-Spaulding Hydroelectric Project. As these projects are all operated under separate FERC licenses, coordination is needed to comply with the conditions of this certification. Condition 17 requires NID to develop a plan to coordinate operations of its Project with PG&E's Upper and Lower Drum-Spaulding Hydroelectric Projects to ensure implementation of the conditions in the Project license, including maintenance of flow requirements and ramping rates during normal operations, scheduled outages, and unscheduled outages (to the extent feasible).

Rationale for 18 – Extremely Dry Conditions

California's history of drought illustrates the importance of planning for multiple dry years or drought. It is difficult to anticipate the specific impacts of consecutive dry years or a long-term drought and identify where limited water supplies may be best used during times of shortage. Condition 18 allows NID to submit and request Deputy

Director approval of a Revised Operations Plan to address water shortage issues during consecutive Dry, Critically Dry, or Extremely Dry water year types or drought years. This condition provides flexibility for adaptive implementation during times of extreme water shortage that cannot be addressed through only Drought Planning (Condition 15) and require variances to certification conditions to address the extremely dry conditions.

Rationale for Condition 19 – Annual Meetings and Technical Review Group

The formation of a Technical Review Group (TRG) (Condition 19) comprised of resource agencies, NID, Foothills Water Network, and other interested stakeholders will facilitate communication and ensure that interested parties have an opportunity to discuss license implementation. The condition requires that NID organize and host TRG meetings, with at least one meeting to be held each year in April. The TRG meetings will provide a platform for communication and coordination between NID, resource agencies, nongovernmental organizations, and other interested parties.

Rationale for Condition 20 – Mercury Management

The Middle Yuba River, South Yuba River, and Bear River have all been affected by historic gold mining activities including the use of mercury in hydrologic gold mining. Mercury deposits associated with historic gold mining activities remain in the Yuba and Bear River systems and may be affected by Project operations and activities in a manner that causes impacts to water quality and/or human health impacts. Water quality and human health impacts may result from an increased amount or mobilization of methylmercury in the watershed. Additionally, Project reservoirs can increase the rate of mercury methylation allowing mercury to bioaccumulate in fish tissue and increase human health risk.

During relicensing, NID evaluated methylmercury concentrations in fish tissue samples collected from the Jackson Meadows Reservoir, Faucherie Lake, and Bowman Lake. Forty-four edible-sized fish were sampled, of which 32 fish (73 percent) exceeded the California Office of Environmental Health Hazard Assessment's Advisory Tissue Levels for safe fish consumption for children and women eating more than three servings a week. Analytical results from Jackson Meadows Reservoir rainbow and brown trout tissue samples revealed concentrations of bioaccumulated mercury as high as 0.48 parts per million wet-weight, which is over the California Office of Environmental Health Hazard Assessment's Advisory Tissue Levels for any safe fish consumption for children and women of 0.44 parts per million wet-weight. Condition 20 requires NID to evaluate its Project operations in relation to mercury and methylation of mercury and develop plans to address any Project-related impacts to mercury in compliance with the *Tribal Subsistence Beneficial Uses and Mercury Provisions of the Inland Surface Waters, Enclosed Bays, and Estuaries (ISWEBE) Plan* (State Water Board, 2017a).

Rationale for Conditions 21 – 49

In order to ensure that the Project operates to meet water quality standards as anticipated, to ensure compliance with other relevant state and federal laws, and to ensure that the Project will continue to meet state water quality standards and other appropriate requirements of state law over its lifetime, this certification imposes conditions regarding monitoring, enforcement, and potential future revisions.

Additionally, California Code of Regulations, title 23, section 3860 requires imposition of certain mandatory conditions for all certifications, which are included in this certification.

5.0 Conclusion

The State Water Board finds that, with the conditions and limitations imposed under this certification, the proposed Project will comply with applicable state water quality standards and other appropriate requirements of state law.

6.0 Water Quality Certification Conditions

ACCORDINGLY, BASED ON ITS INDEPENDENT REVIEW OF THE RECORD, THE STATE WATER RESOURCES CONTROL BOARD CERTIFIES THAT OPERATION OF THE YUBA-BEAR HYDROELECTRIC PROJECT (Project; Federal Energy Regulatory Commission Project No. 2266) will comply with sections 301, 302, 303, 306, and 307 of the Clean Water Act, and with applicable provisions of State law under the following terms and conditions.

CONDITION 1. Flows

1(A) Minimum Instream Flows

The Licensee shall implement the minimum instream flows (MIFs), presented in Tables 1 through 15 (below), as soon as reasonably practicable but no later than 90 days following license issuance, unless an alternative timeline is approved by the State Water Resources Control Board's (State Water Board) Deputy Director for the Division of Water Rights (Deputy Director) due to the need for facility modifications. In the event that facility modifications are needed to achieve any of the MIFs, the Licensee shall submit, no later than 60 days following license issuance, any request for alternative MIF implementation timelines to the Deputy Director for review and consideration for approval. The request shall include specific information on which facility or facilities requires modification, support for the alternative timeline(s), and MIFs the Licensee proposes to implement in the interim period between license issuance and completion of facility modifications. The Licensee shall implement the applicable MIFs required by this certification within 30 days of completing any approved modifications to a facility for which modifications were approved. The Deputy Director may require modifications as part of any approval.

The Licensee shall implement MIFs in the following Project reaches:

- Middle Yuba River below Jackson Meadow Reservoir Dam (Table 1);
- Middle Yuba River below Milton Diversion Dam (Table 2);
- Wilson Creek below Wilson Creek Diversion Dam (Table 3);
- Jackson Creek below Jackson Lake Dam (Table 4);
- Canyon Creek below French Lake Dam (Table 5);
- Canyon Creek below Faucherie Lake Dam (Table 6);
- Canyon Creek below Sawmill Creek Dam (Table 7);
- Canyon Creek below Bowman-Spaulding Diversion Dam (Table 8);
- Texas Creek below Texas Creek Diversion Dam (Table 9);
- Clear Creek below Bowman-Spaulding Conduit (Table 10);
- Fall Creek below Fall Creek Diversion Dam (Table11);
- Trap Creek below Bowman-Spaulding Conduit (Table 12);
- Rucker Creek below Bowman-Spaulding Conduit (Table 13);
- Bear River below Dutch Flat Afterbay Dam (Table 14); and
- Bear River below Rollins Dam (Table 15).

The MIF requirements specify the time period and MIFs in cubic feet per second (cfs) by water year type (Condition 3), as well as the compliance point for the MIFs (i.e., United States Geological Survey [USGS] gage). Flows shall be measured in two ways: (1) as an instantaneous flow; and (2) as the 24-hour average of the flow (mean daily flow). The instantaneous flow is the value used to construct the mean daily flow value and shall be measured in 15-minute or more frequent increments. Each instantaneous flow measurement shall be equal to or greater than 90 percent of the designated minimum flow value. The mean daily flow is the average of the incremental readings of instantaneous flow from midnight (12:00 AM) of one day to midnight (12:00 AM) of the next day. The Licensee shall record instantaneous (usually every 15-minutes) flow readings at all gages, consistent with USGS standards, and ensure the gages are calibrated for the full range of flows that are required, including pulse and unimpaired flows. The Licensee shall report any deviation from the required flows to the State Water Board's Deputy Director within 24 hours of the deviation.

Flows shall be measured at the gage location referenced in this condition unless otherwise approved by the Deputy Director. The Licensee shall comply with applicable California laws and regulations regarding measuring and monitoring water diversions, including California Code of Regulations, title 23, section 933, and amendments thereto, and State Water Board requirements to provide telemetered diversion data on a public website. The Licensee shall post all flow and other data to the California Data Exchange Center website, within 24-hours of flow measurement, unless otherwise approved by the Deputy Director. The Licensee shall publicly notice at an easily accessible location on the internet all known events that will affect minimum flow releases (e.g., powerhouse outages, construction, etc.) in Project reaches a minimum of 30 days in advance. The Licensee shall furnish electronic streamflow records to State Water Board staff upon request. Additionally, any flow data, including whitewater flow data (Condition 14), shall be submitted to the State Water Board in a form consistent with the requirements of Condition 31.

Table 1. MIFs at Middle Yuba River below Jackson Meadows Reservoir Dam

(as measured in cfs at USGS Gage No. 11407815)

Month	Extremely Critically Dry Water Year	Critically Dry Water Year	Dry Water Year	Below Normal Water Year	Above Normal Water Year	Wet Water Year
October	11	11	13	15	20	35
November	11	11	13	15	20	35
December	11	11	13	15	20	35
January	11	11	13	15	20	35
February	11	11	13	15	25	40
March	11	11	16	25	35	60
April	30	30	30	50	60	100
May	60	60	75	90	110	120
June	21	21	30	50	75	100
July	11	11	16	25	35	60
August	11	11	13	15	25	40
September	11	11	13	15	25	40

Table 2. MIFs at Middle Yuba River below Milton Diversion Dam (as measured in cfs at USGS Gage No. 11408550)

Month	Extremely Critically Dry Water Year	Critically Dry Water Year	Dry Water Year	Below Normal Water Year	Above Normal Water Year	Wet Water Year
October	4	6	6	10	10	15
November	4	6	6	10	10	10 or 15[1]
December	4	6	6	10	10	10 or 15[1]
January	4	6	6	10	10	10 or 15[1]
February	4	6	6	10	15	15
March	4	6	6	20	25	30
April	6	10	15	30	35	40
May	6	20	30	50	60	70
June	6	15	20	30	35	40
July	4	6	10	15	20	20
August	4	6	6	10	15	15
September	4	6	6	10	15	15

[1] In Wet water years the MIF is 15 cfs unless the precipitation measured at the Licensee's weather station at Bowman Lake from the previous July 1 up to, but not including, the first day of the month in which MIFs are being determined, is equal to or less than 75 percent of the annual average precipitation for the same period for the most recent 30 years. In that case the MIF will be 10 cfs for that month.

Table 3. MIFs at Wilson Creek below Wilson Creek Diversion Dam (as measured in cfs by the outlet settings at the diversion dam)[1]

Month	Extremely Critically Dry Water Year	Critically Dry Water Year	Dry Water Year	Below Normal Water Year	Above Normal Water Year	Wet Water Year
All Months (Year-round)	0.25 or NF[2]	0.25 or NF	0.25 or NF	0.25 or NF	0.25 or NF	0.25 or NF

[1] The outlet infrastructure at the Wilson Creek Diversion Dam is manually operated, located in a remote location, and there is no existing flow gage for the stream reach. Given the small magnitude of flows in this stream reach and the cost of installing flow gaging equipment for this MIF requirement, NID may configure the outlet settings at the diversion dam using the opening size of the outlet to meet the MIF. NID shall check the outlet works once each week, conditions permitting (as outlined below), to confirm the MIF is being met and re-set the outlet opening as necessary. After November 1 of each year the outlet shall be set to meet the MIF with the expectation that the site may not be accessible due to snow until the next calendar year. Once site access is no longer feasible, weekly checking of the outlet works until the day in the next calendar year when the location is safe for NID staff to access. Upon request, NID shall provide State Water Board staff with documentation that the outlet setting was appropriately set and checked in compliance with this condition.

[2] NF refers to the natural flow entering Wilson Creek Diversion Dam from upstream. If the inflow to Wilson Creek Diversion Dam is less than 0.25 cfs, the MIF shall be the natural flow until such time that the inflow is greater than 0.25 cfs.

Table 4. MIFs at Jackson Creek below Jackson Lake Dam (as measured in cfs at USGS Gage No. 11414700)

Month	Extremely Critically Dry Water Year	Critically Dry Water Year	Dry Water Year	Below Normal Water Year	Above Normal Water Year	Wet Water Year
October	0.5	0.5	0.75	0.75	1	2
November	0.5	0.5	0.75	0.75	0.75	0.75
December	0.5	0.5	0.75	0.75	0.75	0.75
January	0.5	0.5	0.75	0.75	0.75	0.75
February	0.5	0.5	0.75	0.75	0.75	0.75
March	0.5	0.5	0.75	0.75	0.75	0.75
April	0.5	0.5	0.75	0.75	0.75	0.75
May	0.5	0.5	0.75	0.75	0.75	0.75
June	0.5	0.5	1	1	2	3
July	0.5	0.5	0.75	0.75	1	2
August	0.5	0.5	0.75	0.75	1	2
September	0.5	0.5	0.75	0.75	1	2

Table 5. MIFs at Canyon Creek below French Lake Dam (as measured in cfs at USGS Gage No. 11414410)

Month	Extremely Critically Dry Water Year	Critically Dry Water Year	Dry Water Year	Below Normal Water Year	Above Normal Water Year	Wet Water Year
October	5	5	6	9	9	9
November	5	5	6	9	9	9
December	5	5	6	9	9	9
January	5	5	6	9	9	9
February	5	5	6	9	14	18
March	5	5	6	9	14	18
April	5	5	6	9	14	18
May	5	5	6	9	14	18
June	5	5	6	9	14	18
July	5	5	6	9	14	18
August	5	5	6	9	14	18
September	5	5	6	9	14	18

Table 6. MIFs at Canyon Creek below Faucherie Lake Dam (as measured in cfs at USGS Gage No. 11414450)

Month	Extremely Critically Dry Water Year	Critically Dry Water Year	Dry Water Year	Below Normal Water Year	Above Normal Water Year	Wet Water Year
October	5	5	6	9	9	9
November	5	5	6	9	9	9
December	5	5	6	9	9	9
January	5	5	6	9	9	9
February	5	5	6	9	14	18
March	5	5	6	9	14	18
April	5	5	6	9	14	18
May	5	5	6	9	14	18
June	5	5	6	9	14	18
July	5	5	6	9	14	18
August	5	5	6	9	14	18
September	5	5	6	9	14	18

Table 7. MIFs at Canyon Creek below Sawmill Lake Dam (as measured in cfs at USGS Gage No. 11414470)

Month	Extremely Critically Dry Water Year	Critically Dry Water Year	Dry Water Year	Below Normal Water Year	Above Normal Water Year	Wet Water Year
October	5	5	6	9	14	18
November	5	5	6	9	14	18
December	5	5	6	9	14	18
January	5	5	6	9	14	18
February	5	5	6	9	14	18
March	5	5	6	9	14	18
April	5	5	6	9	14	18
May	5	5	6	9	14	18
June	5	5	6	9	14	18
July	5	5	6	9	14	18
August	5	5	6	9	14	18
September	5	5	6	9	14	18

Table 8. MIFs at Canyon Creek below Bowman-Spaulding Diversion Dam (as measured in cfs at USGS Gage No. 11416500)

Month	Extremely Critically Dry Water Year	Critically Dry Water Year	Dry Water Year	Below Normal Water Year	Above Normal Water Year	Wet Water Year
October	4	6	10	10	10	15
November	4	6	10	10	10	15
December	4	6	10	10	10	15
January	4	6	10	10	10	15 or 20[1]
February	4	6	10	15	20	25
March	4	6	10	15	20	25
April	6	13	15	30	35	40
May	6	15	20	40	50	60
June	6	13	15	30	35	40
July	4	10	15	15	25	30
August	4	10	15	15	20	20
September	4	10	15	15	20	20

[1] In Wet water years the MIF shall be 20 cfs unless the precipitation measured at the Licensee's weather station at Bowman Lake from the previous July 1 up to, but not including, the first day of the month in which MIFs are being determined, is equal to or less than 75 percent of the annual average precipitation for the same period for the most recent 30 years. In that case the MIF shall be 15 cfs for that month.

Table 9. MIFs at Texas Creek below Texas Creek Diversion Dam (as measured in cfs at a new gage to be constructed)[1, 2]

Month	Extremely Critically Dry Water Year	Critically Dry Water Year	Dry Water Year	Below Normal Water Year	Above Normal Water Year	Wet Water Year
October	0.6	1	1	2	3	3
November	0.6	1	1	2	3	3
December	0.6	1	1	2	3	3
January	0.6	1	1	2	3	3
February	0.6	1	1	2	3	3
March	0.6	1	1	2	3	3
April	0.6	1	1	2	3	3
May	0.6	1	1	2	3	3
June	0.6	1	1	2	3	3
July	0.6	1	1	2	3	3
August	0.6	1	1	2	3	3
September	0.6	1	1	2	3	3

[1] Per Condition 4 (Gaging), a new gage shall be installed and operated in Texas Creek below Texas Creek Diversion Dam to monitor compliance with MIFs and other requirements of the license.

[2] During Bowman-Spaulding Conduit canal outages the MIF shall be consistent with the flows outlined in Condition 7(A) – Bowman-Spaulding Conduit.

Table 10. MIFs at Clear Creek below Bowman-Spaulding Conduit (as measured in cfs at a new gage to be constructed)[1, 2]

Month	Extremely Critically Dry Water Year	Critically Dry Water Year	Dry Water Year	Below Normal Water Year	Above Normal Water Year	Wet Water Year
October	1	1	1	1	2	2
November	1	1	1	1	2	2
December	1	1	1	1	2	2
January	1	1	1	1	2	2
February	1	1	1	1	2	2
March	1	1	1	1	2	2
April	1	1	1	2	3	3
May	1	1	1	2	4	6
June	1	1	1	2	3	3
July	1	1	1	1	2	2
August	1	1	1	1	2	2
September	1	1	1	1	2	2

[1] Per Condition 4 (Gaging) a new gage shall be installed and operated in Clear Creek below Bowman-Spaulding Diversion Dam to monitor compliance with MIFs and other requirements of the license.

[2] During Bowman-Spaulding Conduit canal outages the MIF shall be consistent with the flows outlined in Condition 7(A) – Bowman-Spaulding Conduit

Table 11. MIFs at Fall Creek below Fall Creek Diversion Dam (as measured in cfs at a new gage to be constructed)[1, 2, 3]

Month	Extremely Critically Dry Water Year	Critically Dry Water Year	Dry Water Year	Below Normal Water Year	Above Normal Water Year	Wet Water Year
October	2	2	2	4	6	8
November	2	2	2	4	6	8
December	2	2	2	4	6	8
January	2	2	2	4	6	8
February	2	2	2	4	6	8
March	2	2	2	8	10	10
April	10	10	10	15	20	20
May	12.5	12.5	15	20	30	30
June	4	4	10	15	20	25
July	2	2	2	6	8	10
August	2	2	2	6	6	8
September	2	2	2	6	6	8

[1] Per Condition 4 (Gaging) a new gage shall be installed and operated in Fall Creek below Fall Creek Diversion Dam to monitor compliance with MIFs and other requirements of the license.

[2] During Bowman-Spaulding Conduit canal outages the MIF shall be consistent with the flows outlined in Condition 7(A) – Bowman-Spaulding Conduit.

[3] When the inflow to Fall Creek Diversion Dam drops below the MIF in Table 11, the MIF shall be the inflow until such time as inflow is greater than the MIF in Table 11 (i.e., the Licensee shall not divert into Bowman-Spaulding Conduit when inflow falls below the MIF).

Table 12. MIFs at Trap Creek below Bowman-Spaulding Conduit (as measured in cfs at a new gage to be constructed)[1, 2]

Month	Extremely Critically Dry Water Year	Critically Dry Water Year	Dry Water Year	Below Normal Water Year	Above Normal Water Year	Wet Water Year
October	0.25	0.25	0.5	0.5	1	1.5
November	0.25	0.25	0.5	0.5	1	1.5
December	0.25	0.25	0.5	0.5	1	1.5
January	0.25	0.25	0.5	0.5	1	1.5
February	0.25	0.25	0.5	0.5	1	1.5
March	0.25	0.25	0.5	1	1.5	1.5
April	0.25	0.75	0.75	2	3	3
May	0.25	0.75	0.75	3	3	3
June	0.25	0.75	0.75	2	3	3
July	0.25	0.25	0.5	0.5	1	1.5
August	0.25	0.25	0.5	0.5	1	1.5
September	0.25	0.25	0.5	0.5	1	1.5

[1] Per Condition 4 (Gaging) a new gage shall be installed and operated in Trap Creek below Bowman-Spaulding Diversion Dam to monitor compliance with MIFs and other requirements of the license.
[2] During Bowman-Spaulding Conduit canal outages the MIF shall be consistent with the flows outlined in Condition 7(A) – Bowman-Spaulding Conduit.

Table 13. MIFs at Rucker Creek below Bowman-Spaulding Conduit (as measured in cfs at a new gage to be constructed)[1, 2]

Month	Extremely Critically Dry Water Year	Critically Dry Water Year	Dry Water Year	Below Normal Water Year	Above Normal Water Year	Wet Water Year
October	0.3	0.3	0.5	2	2	2
November	0.3	0.3	0.5	2	2	2
December	0.3	0.3	0.5	2	2	2
January	0.3	0.3	0.5	2	2	2
February	0.3	0.3	0.5	2	2	2
March	0.3	0.3	0.5	2	2	2
April	0.3	0.3	0.5	2	2	2
May	0.3	0.3	0.5	2	3	3
June	0.3	0.3	0.5	2	2	2
July	0.3	0.3	0.5	2	2	2
August	0.3	0.3	0.5	2	2	2
September	0.3	0.3	0.5	2	2	2

[1] Per Condition 4 (Gaging), a new gage shall be installed and operated in Rucker Creek below Bowman-Spaulding Diversion Dam to monitor compliance with MIFs and other requirements of the license.
[2] During Bowman-Spaulding Conduit canal outages the MIF shall be consistent with the flows outlined in Condition 7(A) – Bowman-Spaulding Conduit.

Table 14. MIFs at Bear River below Dutch Flat Afterbay Dam (as measured in cfs at USGS Gage No. 11421790)[1]

Month	Extremely Critically Dry Water Year	Critically Dry Water Year	Dry Water Year	Below Normal Water Year	Above Normal Water Year	Wet Water Year
October	7	7	8	10	13	13
November	7	7	8	10	13	13
December	7	7	8	10	13	13
January	7	7	8	10	13	13
February	10	10	15	20	22	30
March	15	15	20	25	30	40
April	20	20	25	30	35	45
May	15	15	20	25	30	40
June	10	10	15	20	22	30
July	10	10	10	10	12	15
August	10	10	10	10	12	15
September	10	10	10	10	12	15

[1] During PG&E's Upper Drum-Spaulding Hydroelectric Project (Federal Energy Regulatory Commission Project No. 2310) Drum Canal outages the MIF shall be consistent with the flows outlined in Condition 7(B) – PG&E's Upper Drum-Spaulding Hydroelectric Project Drum Canal.

Table 15. MIFs at Bear River below Rollins Dam (as measured in cfs at USGS Gage No. 11422500)

Month	Extremely Critically Dry Water Year	Critically Dry Water Year	Dry Water Year	Below Normal Water Year	Above Normal Water Year	Wet Water Year
October	20	40	40	55	65	65
November	15	20	23	30	40	50
December	15	20	23	30	40	50
January	15	20	23	30	40	50
February	15	20	23	30	40	50
March	15	20	25	30	40	50
April	15	40	40	50	75	75
May	20	45	45	65	100	100
June	20	50	50	65	125	125
July	20	50	50	70	109	125
August	20	50	50	70	109	125
September	20	50	50	70	80	80

1(B) Planned Temporary Flow Modifications

The Licensee may request temporary MIF variances for non-emergency facility construction, modification, or maintenance. Non-emergency variance requests shall be submitted to the Deputy Director for approval as far in advance as practicable, but no less than four months in advance of the desired effective date. The Licensee shall

notify the United States Department of Agriculture, Forest Service (USFS), California Department of Fish and Wildlife (CDFW), United States Fish and Wildlife Service (USFWS), and, if applicable, National Marine Fisheries Service (NMFS) and the United States Department of the Interior, Bureau of Land Management (BLM) of the proposed temporary MIF variance. The request shall include: a description of the proposed construction, modification, or maintenance; the planned duration and magnitude of the MIF variance; documentation of notification to the USFS, CDFW, USFWS, and, if applicable, NMFS and BLM, and any comments received; proposed measures that will be implemented to protect water quality and beneficial uses; and a schedule for the proposed construction, modification, or maintenance. The Deputy Director may deny the request or require modifications as part of any approval. Upon Deputy Director approval, the Licensee shall provide public notice of the MIF variance. The Licensee shall file with the Federal Energy Regulatory Commission (FERC) the Deputy Director-approved temporary modifications to flow requirements and any approved amendments thereto.

1(C) Unplanned Temporary Flow Modifications

The flows specified in Condition 1 may be temporarily modified if required by equipment malfunction reasonably beyond the control of the Licensee, as directed by law enforcement authorities, or in emergencies. An emergency is defined as an unforeseen event that is reasonably out of the control of the Licensee and requires the Licensee to take immediate action, either unilaterally or under instruction by law enforcement or other regulatory agency staff, to prevent imminent loss of human life or substantial property damage. An emergency may include but is not limited to natural events such as landslides, storms, or wildfires; vandalism; malfunction or failure of Project works; recreation accidents; or other public safety incidents. Drought is not considered an emergency for purposes of this condition. The Licensee shall make all reasonable efforts to promptly resume required flows.

When possible, the Licensee shall notify the Deputy Director prior to any unplanned temporary flow modification. In all instances, the Licensee shall notify the Deputy Director within 24 hours of the beginning of any unplanned temporary flow modification. Within 96 hours of the beginning of any unplanned temporary flow modification, the Licensee shall provide the Deputy Director with an update of the conditions associated with the modification and an estimated timeline for returning to the required MIFs.

Within 30 days of any unplanned temporary MIF modification, the Licensee shall provide the Deputy Director with: (1) a written description of the modification and reason(s) for its necessity; (2) photo documentation of the emergency or reason for the flow modification; (3) a timeline for returning to the required MIF or timeline when the MIF resumed; (4) a description of corrective actions taken in response to an unplanned temporary MIF modification; and (5) a plan to prevent the need for modification of MIFs resulting from a similar emergency or event in the future. The Deputy Director may require modifications to the Licensee's plan to prevent future modifications of MIFs resulting from similar emergencies or events. The Licensee shall implement its plan and any modifications required by the Deputy Director.

1(D) Evaluation of Flows

After considering monitoring results from Condition 5 (Monitoring and Adaptive Management) and other information associated with conditions in this water quality certification (certification) and the FERC license, and/or following adoption of any future amendments to the Bay-Delta Plan addressing flows in the Sacramento River and its tributaries (including those currently being developed under the Sacramento/Delta Update to the Bay-Delta Plan), the Deputy Director may require the Licensee to initiate consultation on flows with CDFW, USFWS, USFS, NMFS, State Water Board staff, and, if applicable, BLM. Such consultation would determine whether the required flows are reasonably protective of water quality and beneficial uses in the Yuba River, Bear River, and Project-related tributaries and/or whether they meet the requirements of the Bay-Delta Plan. The consultation shall also address what, if any, flow adjustments must be implemented. Consultation under this condition shall not be necessary if the Licensee enters into a State Water Board-approved comprehensive and long-term, watershed-wide voluntary solution implementing such changes to the Sacramento/Delta Update to the Bay-Delta Plan, and any updates to the certification necessary to implement the voluntary solution are incorporated into this certification.

If the above consultation and evaluation of MIFs does not occur within 10 years of license issuance, the Licensee shall initiate consultation with CDFW, USFWS, USFS, NMFS, State Water Board staff, and, if applicable, BLM. The consultation shall include discussions of: 1) all monitoring conducted through conditions of this certification that pertain to environmental resources and Project flow releases divided by river reaches (i.e., Middle Yuba, South Yuba, and Bear River); 2) any adverse effects to environmental resources associated with Project flow releases; and 3) proposed updates to the flow schedules and/or identification of management actions to address adverse effects to environmental resources associated with Project flow releases.

Within six months of initiating consultation and no later than 11 years following license issuance, the Licensee shall submit to the Deputy Director for review and consideration of approval: documentation of consultation and the consulting agencies' comments and recommendations; any changes to the flows and/or other management actions proposed by the Licensee; and a description of how any changes proposed by the Licensee incorporate or address the agencies' comments and recommendations. The Deputy Director may approve the Licensee's proposal or require other changes to the flows to the extent necessary to ensure reasonable protection of the beneficial uses. If changes to the flows are required, within 10 days of the Deputy Director's approval of the Licensee's proposal or changes to the flows, the Licensee shall file a request with FERC to amend the flow requirements in the license. The Licensee shall implement the new flows as soon as reasonably practicable after receiving the Deputy Director's decision and any other required approvals.

CONDITION 2. Ramping Rates

The Licensee shall implement ramping rates specified in this condition as soon as reasonably practicable but no later than 90 days after license issuance, unless otherwise approved by the Deputy Director. Ramping rates specified in this condition

do not apply: (a) to Project operations during an emergency or other event as defined in Condition 1(C)); (b) to releases required by the United States Army Corps of Engineers (USACE) flood control criteria; or (c) releases required by the California Division of Safety of Dams (DSOD). Flows related to ramping rates shall be continuously measured at the same compliance gage required for MIF and made in accordance with the following ramping rate criteria.

2(A) Middle Yuba River below Milton Diversion Dam

The Licensee shall operate the Project to avoid an increase or decrease in instream flows of more than 100 percent in a 12-hour period between the end of spill cessation (Condition 6(A)) and September 30 in years when the spill cessation schedule is implemented, or from May 1 through September 30 in years where spill cessation does not occur.

2(B) Canyon Creek below Bowman-Spalding Diversion Dam

The Licensee shall operate the Project to avoid an increase or decrease in instream flows of more than 100 percent in a 12-hour period between the end of spill cessation (Condition 6(B)) and September 30 in years when the spill cessation schedule is implemented, or from April 1 through September 30 in years where spill cessation does not occur.

2(C) Bear River below Dutch Flat Afterbay Dam

If from May 1 through September 15, the Licensee shuts down the Chicago Park Powerhouse for a non-routine planned outage that would cause the Dutch Flat Afterbay to spill, the Licensee shall monitor the powerhouse (i.e., allow flows to pass through the powerhouse), if operationally feasible, until the flows from the Dutch Flat Afterbay reach the tailrace of the Chicago Park Powerhouse, consistent with the spill cessation provisions specified in Condition 6(C).

2(D) Bear River below Rollins Dam

In addition to the provisions of Condition 6(D), the Licensee shall consult with CDFW and State Water Board staff within 90 days of license issuance to determine if additional ramping rate measures (e.g. monitoring and adaptive management) are needed to protect foothill yellow-legged frog egg masses from stranding due to water elevation changes in the Bear River associated with Project operations.

Unless otherwise approved by the Deputy Director, within six months of license issuance, the Licensee shall submit to the Deputy Director: documentation of consultation and the consulting agencies' comments and recommendations; any ramping rates or additional studies proposed by the Licensee; a description of how any studies or changes proposed by the Licensee incorporate or address the agencies' comments and recommendations. The Deputy Director may approve the Licensee's proposal or require other changes to the ramping rates to the extent necessary to ensure reasonable protection of the beneficial uses. The Licensee shall implement the

new ramping rates as soon as reasonably practicable after receiving the Deputy Director's approval and any other required approvals. The State Water Board reserves the right to modify this plan if notified by CDFW that stranding events continue to occur with the modified operations or ramping rates.

CONDITION 3. Water Year Types

The Licensee shall classify water year types according to this condition as soon as reasonably practicable but no later than 90 days after license issuance. The Licensee shall determine the water year type based on the criteria in Table 16. The Licensee shall determine the water year type in the months of February, March, April, May, and October based on the California Department of Water Resources (DWR) Bulletin 120[9] forecast.

Table 16. Water Year Types for the Yuba-Bear Hydroelectric Project

Water Year Type	DWR Forecast of Total Unimpaired Runoff in Yuba River (at Smartsville USGS Gage No. 11418000) or DWR Full Natural Flow Near Smartsville for the Water Year[1] (Thousands of Acre-Feet))
Wet	Greater than 3,240
Above Normal	2,191 to 3,240
Below Normal	1,461 to 2,190
Dry	901 to 1,460
Critically Dry	616 to 900
Extremely Critically Dry	Equal to or Less than 615

[1] DWR rounds the Bulletin 120 forecast to the nearest thousands of acre-feet (TAF) to establish water year types in February, March, April, and May. DWR rounds its Full Natural Flow calculation to establish water year types in October, to the nearest acre-foot (AF); the Licensee shall round DWR's Full Natural Flow calculation in October to the nearest TAF.

In each of the months of February, March, April, and May, the water year type shall be based on DWR's water year forecast of unimpaired runoff in the Yuba River at Smartsville Gage No. 11418000 as established in DWR's Bulletin 120. DWR's Bulletin 120 as published in February, March, and April shall apply from the 16th day of that month through the 15th day of the next month. For example, Bulletin 120 published in the second week of February shall establish the water year type from February 16 through March 15. Additionally, from May 16 through October 15, the water year type shall be based on DWR's Bulletin 120 published in May. If DWR has not released the Bulletin 120 for an affected month by the 15th day then the Licensee shall implement the required MIF within 48 hours of Bulletin 120 being published.

[9] Bulletin 120 is a publication issued four times a year, in the second week of February, March, April, and May by DWR. It contains forecasts of the volume of seasonal runoff from California's major watersheds, and summaries of precipitation, snowpack, reservoir storage, and runoff in various regions of California.

From October 16 through February 15 of the following year, the water year type shall be based on the sum of DWR's monthly (not daily) full natural flow for the full prior water year at the Yuba River at Smartsville USGS Gage No. 11418000. The sum is currently made available by DWR on the California Data Exchange Center (CDEC) in the folder named "FNF Sum"[10].

If DWR does not make the full natural flow available by October 15, the water year type shall be based on DWR's May Bulletin 120, until the full natural flow for the full prior water year is made available. The Licensee shall implement the required water year type determination within three days of the date when DWR makes the full natural flows for the full prior year available through February 15.

CONDITION 4. Streamflow Gages

The Licensee shall implement the *Yuba-Bear Gaging Plan* as required by USFS 4(e) condition 34 (USFS, 2014f). The Licensee shall commence flow monitoring at the streamflow gages referenced in this certification within 90 days of license issuance unless the streamflow gage must be installed or modified as required by the *Yuba-Bear Gaging Plan*. If a streamflow gage requires modification or installation, the Licensee shall begin monitoring with the streamflow gage no later than 15 days following completion of the modification or installation. Any streamflow gage(s) that requires modification or installation that is not included in *Yuba-Bear Gaging Plan* requires approval by the Deputy Director prior to beginning modification or installation.

The Deputy Director reserves the right to modify or approve modifications to the requirements referenced in this condition. Any modifications to the *Yuba-Bear Gaging Plan* require approval by the Deputy Director prior to implementation. The Licensee shall file with FERC any Deputy Director-approved amendments to the *Yuba-Bear Gaging Plan*. The Licensee shall implement any Deputy Director-approved amendments to the *Yuba-Bear Gaging Plan* upon receipt of Deputy Director and any other required approvals.

CONDITION 5. Monitoring and Adaptive Management

5(A) Fish Population

No later than six months following license issuance, the Licensee shall implement the *Fish Population Monitoring Plan*, as filed by USFS with FERC on November 21, 2013 (USFS, 2013d), with the following modifications:

Each year in which monitoring occurred in the previous year pursuant to this condition, the Licensee shall submit a Fish Population Monitoring Annual Report 60 days prior to the annual meeting (Condition 19) to the Deputy Director for review and consideration of approval. In addition to the items identified in the Fish Population Monitoring Plan, the Fish Population Monitoring Report shall include identification of any potential Project-

[10] Last accessed August 11, 2020, the CDEC FNF Sum is available at: http://cdec.water.ca.gov/cgi-progs/stages/FNFSUM

related impacts to fish populations; and Licensee-proposed adaptive management actions or monitoring plan modifications to address potential Project-related impacts to fish populations based on monitoring results.

The Deputy Director reserves the right to modify or approve modifications to the requirements referenced in this condition. Any modifications to the Fish Population Monitoring Plan require approval by the Deputy Director prior to implementation. The Licensee shall file with FERC any Deputy Director-approved amendments to the Fish Population Monitoring Plan. The Licensee shall implement any Deputy Director-approved amendments to the Fish Population Monitoring Plan upon receipt of Deputy Director and any other required approvals. The Licensee shall file the Deputy Director-approved Fish Population Monitoring Report, together with any required Fish Population Monitoring Plan modifications, with FERC.

5(B) Water Temperature

No later than six months following license issuance, the Licensee shall implement the *Water Temperature and Stage Monitoring Plan* as filed by USFS with FERC on April 11, 2014 (USFS, 2014e), with the following modifications:

Each year, the Licensee shall submit a Water Temperature Monitoring Annual Report 60 days prior to the annual meeting (Condition 19) to the Deputy Director for review and consideration of approval. In addition to the items identified in the Water Temperature and Stage Monitoring Plan, the Water Temperature Monitoring Annual Report shall include the Licensee-proposed adaptive management actions or monitoring plan modifications to address potential Project-related impacts to water temperature based on monitoring results.

The Deputy Director reserves the right to modify or approve modifications to the requirements referenced in this condition. Any modifications to the Water Temperature and Stage Monitoring Plan require approval by the Deputy Director prior to implementation. The Licensee shall file with FERC any Deputy Director-approved amendments to the Water Temperature and Stage Monitoring Plan. The Licensee shall implement any Deputy Director approved amendments to the Water Temperature and Stage Monitoring Plan upon receipt of Deputy Director and any other required approvals. The Licensee shall file the Deputy Director-approved Water Temperature Monitoring Annual Report, together with any required Water Temperature and Stage Monitoring Plan modifications, with FERC.

5(C) Bald Eagle

No later than six months following license issuance, the Licensee shall implement the *Bald Eagle Management Plan*, as filed by USFS with FERC November 21, 2013 (USFS, 2013a), and agreed to by NID on May 19, 2014 (NID, 2014b) with the following modifications:

- Section 5.1 *Annual Consultation Meeting* shall be modified to include consultation with the State Water Board.

- Sixty (60) days prior to the annual meeting (Condition 19), in years in which monitoring occurred in the previous year pursuant to this condition, the Licensee shall submit a Bald Eagle Monitoring Report to the Deputy Director for review and consideration of approval. In addition to items identified in the Bald Eagle Management Plan, the Bald Eagle Monitoring Report shall include any Licensee-proposed adaptive management actions or monitoring plan modifications to address potential Project-related impacts to bald eagles and/or their nests or eggs.

The Deputy Director reserves the right to modify or approve modifications to the requirements referenced in this condition. Any additional modifications to the Bald Eagle Management Plan require approval by the Deputy Director prior to implementation. The Licensee shall file with FERC any Deputy Director-approved amendments to the Bald Eagle Management Plan. The Licensee shall implement any Deputy Director-approved amendments to the Bald Eagle Management Plan upon receipt of Deputy Director and any other required approvals.

5(D) Foothill Yellow-Legged Frog

No later than six months following license issuance, the Licensee shall implement the *Foothill Yellow Legged Frog Monitoring Plan*, as filed by USFS with FERC on November 21, 2013 (USFS, 2013e) with the following modifications:

Sixty (60) days prior to the annual meeting (Condition 19), in years in which monitoring occurred in the previous year pursuant to this condition, the Licensee shall submit a Foothill Yellow Legged Frog Monitoring Report to the Deputy Director for review and consideration of approval. In addition to the items identified in the Foothill Yellow-Legged Frog Monitoring Plan, the Foothill Yellow-Legged Frog Monitoring Report shall include Licensee-proposed adaptive management actions or monitoring plan modifications (if necessary) to address any identified adverse Project-related impacts to foothill yellow-legged frogs.

The Deputy Director reserves the right to modify or approve modifications to the requirements referenced in this condition. Any modifications to the Foothill Yellow-Legged Frog Monitoring Plan require approval by the Deputy Director prior to implementation. The Licensee shall file with FERC any Deputy Director-approved amendments to the Foothill Yellow-Legged Frog Monitoring Plan. The Licensee shall implement any Deputy Director approved amendments to the Foothill Yellow-Legged Frog Monitoring Plan upon receipt of Deputy Director and any other required approvals. If the Deputy Director requires any modification to the Foothill Yellow-Legged Frog Monitoring Report as part of approval, the Licensee shall file the Deputy Director-approved Foothill Yellow-Legged Frog Monitoring Report, together with any required the Foothill Yellow-Legged Frog Monitoring Plan modifications, with FERC.

5(E) Channel Morphology

No later than six months following license issuance, the Licensee shall implement the *Channel Morphology Monitoring Plan*, as filed by USFS with FERC on November 21, 2013 (USFS, 2013c) with the following modifications:

Sixty (60) days prior to the annual meeting (Condition 19), in years in which monitoring occurred in the previous year pursuant to this condition, the Licensee shall submit a Channel Morphology Monitoring Report to the Deputy Director for review and consideration for approval. In addition to the items identified in the Channel Morphology Monitoring Plan, the Channel Morphology Monitoring Report shall include an analysis of prior years' monitoring results and Licensee-proposed adaptive management actions or monitoring plan modifications, if necessary, to address any identified adverse Project-related impacts to channel morphology.

The Deputy Director reserves the right to modify or approve modifications to the requirements referenced in this condition. Any modifications to the Channel Morphology Monitoring Plan require approval by the Deputy Director prior to implementation. The Licensee shall file with FERC any Deputy Director-approved amendments to the Channel Morphology Monitoring Plan. The Licensee shall implement any Deputy Director approved amendments to the Channel Morphology Monitoring Plan upon receipt of Deputy Director and any other required approvals. If the Deputy Director requires any modification to the Channel Morphology Monitoring Report as part of approval, the Licensee shall file the Deputy Director-approved Channel Morphology Monitoring Report, together with any required the Channel Morphology Monitoring Plan modifications, with FERC.

5(F) Aquatic Benthic Macroinvertebrates

No later than one year following license issuance, the Licensee shall submit an *Aquatic Benthic Macroinvertebrates Management Plan* (BMI Plan) to the Deputy Director for review and consideration for approval. The Deputy Director may require modifications as part of any approval. The BMI Plan shall be developed in consultation with CDFW, USFWS, USFS, BLM, and State Water Board staff. The goal of the BMI Plan shall be to collect information related to the response of the BMI community to flow changes and operations modifications in Project-affected reaches and inform potential adaptive management actions. At a minimum, the Plan shall include:

- Identification of monitoring locations, which shall include a minimum of eight monitoring locations in the Project area;
- Description of BMI sampling protocols using the Surface Water Ambient Monitoring Program (SWAMP) methodology, analytical methods, and quality assurance and quality control procedures, unless otherwise approved by the Deputy Director;
- Proposed schedule and frequency of monitoring;
- Format, schedule, and reporting to document, summarize, and analyze monitoring results. The Licensee may propose any updates or adaptive

management measures to the plan based on the monitoring results or new information related to benthic macroinvertebrates that may be impacted by Project operations. Monitoring reports shall be submitted to USFS, CDFW, USFWS, and State Water Board staff;

- Documentation of consultation with USFS, CDFW, USFWS, BLM, and State Water Board staff, comments and recommendations made in connection with the plan, and a description of how the plan incorporates or addresses the comments and recommendations.

Any modifications to the BMI Plan require approval by the Deputy Director prior to implementation. The Licensee shall file with FERC the Deputy Director-approved BMI Plan and any amendments thereto. The Licensee shall implement the Deputy Director approved BMI Plan and any amendments thereto upon receipt of Deputy Director and any other required approvals.

5(G) Riparian Vegetation

No later than six months following license issuance, the Licensee shall implement the *Riparian Vegetation Monitoring Plan*, as filed by USFS with FERC on April 11, 2014 (USFS, 2014d), with the following modifications:

Sixty (60) days prior to the annual meeting (Condition 19), in years in which monitoring occurred in the previous year pursuant to this condition, the Licensee shall submit a Riparian Vegetation Monitoring Report to the Deputy Director for review and consideration for approval. In addition to the items identified in the Riparian Vegetation Monitoring Plan, the Riparian Vegetation Monitoring Report shall include Licensee-proposed adaptive management actions or monitoring plan modifications, if necessary, to address any identified adverse Project-related impacts to riparian vegetation.

The Deputy Director reserves the right to modify or approve modifications to the requirements referenced in this condition. Any modifications to the Riparian Vegetation Monitoring Plan require approval by the Deputy Director prior to implementation. The Licensee shall file with FERC any Deputy Director-approved amendments to the Riparian Vegetation Monitoring Plan. The Licensee shall implement any Deputy Director-approved amendments to the Riparian Vegetation Monitoring Plan upon receipt of Deputy Director and any other required approvals. If the Deputy Director requires any modification to the Riparian Vegetation Monitoring Report as part of approval, the Licensee shall file the Deputy Director-approved Riparian Vegetation Monitoring Report, together with any required the Riparian Vegetation Monitoring Plan modifications, with FERC.

5(H) Water Quality

No later than one year following license issuance, the Licensee shall submit a Water Quality Monitoring Plan to the Deputy Director for review and consideration for approval. The Deputy Director may require modifications as part of any approval. The Water Quality Monitoring Plan shall be developed in consultation with CDFW, USFS, BLM,

USFWS, Central Valley Regional Water Quality Control Board (Central Valley Regional Water Board) and State Water Board staff. The goal of the Water Quality Monitoring Plan shall be to assess Project impact to water quality and identify adaptive management actions to reduce Project impacts, as necessary. At a minimum, the Water Quality Monitoring Plan shall include:

- Sampling of stream sites at the locations listed in Table 17 in August of the fifth year following license issuance;
- Sampling of stream sites at the locations listed in Table 17 in August of the second year of consecutive Dry, Critically Dry, or Extremely Critically Dry water years, as defined in Condition 3;
    - Sampling after consecutive Dry, Critically Dry, or Extremely Critically Dry water years is only required during or between the sixth- and fourteenth-year following license issuance;
    - If no consecutive Dry, Critically Dry, or Extremely Critically Dry water years occur during or between the sixth and fourteenth year following license issuance, the Licensee shall repeat the sampling from the fifth year following license issuance in the fifteenth year following license issuance.
- A list of water quality parameters that shall be sampled. At a minimum, water quality parameters shall include all parameters sampled under the water quality study during the relicensing process, as filed with FERC on July 21, 2008 (NID, 2008);
- Description of sampling protocols using United States Environmental Protection Agency collection and analytical methods;
- Description of quality assurance and quality control procedures that will be used for collection and handling of samples and data verification and/or validation of test results, including a quality assurance program plan;
- Format, schedule, and reporting to document, summarize, and analyze water quality monitoring results. The Licensee may propose any updates or adaptive management measures to the Water Quality Monitoring Plan based on the monitoring results or new information related to water quality that may be impacted by Project operations. Monitoring reports shall be submitted to USFS, CDFW, USFWS, BLM, Central Valley Regional Water Board, and State Water Board staff;
- Documentation of consultation with USFS, BLM, CDFW, USFWS, Central Valley Regional Water Board, and State Water Board staff, including comments and recommendations made in connection with the plan, and a description of how the plan incorporates or addresses the comments and recommendations.

Table 17. Water Quality Sampling Locations and Frequency

Sampling Location	Fifth Year Sampling	Sequential Dry, Critically Dry, or Extremely Critically Dry Year Sampling
Middle Yuba River below Jackson Meadows Dam	Yes	Yes
Jackson Creek above Bowman Reservoir	Yes	No
Canyon Creek above Bowman Reservoir	Yes	No
Canyon Creek below Bowman-Spaulding Diversion Dam	Yes	Yes
Bear River above Steephollow Creek	Yes	No
Bear River below Bear River Canal Diversion Dam (directly below dam, above Highway 174 crossing)	Yes	Yes

The Deputy Director reserves the right to require additional water quality monitoring (e.g., additional parameters and/or locations than those identified in the initial Deputy Director-approved Water Quality Monitoring Plan) and/or other actions to protect water quality and beneficial uses throughout the term of the FERC license. Any modifications to the Water Quality Monitoring Plan require approval by the Deputy Director prior to implementation. The Licensee shall file with FERC the Deputy Director-approved Water Quality Monitoring Plan, any amendments thereto, and any additional required actions. The Licensee shall implement the Deputy Director-approved Water Quality Monitoring Plan, and any amendments thereto, and any additional required actions upon receipt of Deputy Director and any other required approvals.

CONDITION 6. Spill Cessation and Reduction

Spill cessation and reductions specified in this condition do not apply to: (a) Project operations during an emergency or other event as defined in Condition 1(C); (b) releases required by USACE flood control criteria; or (c) instances when the Licensee is directed by FERC or the California Division of Safety of Dams (DSOD) to test or exercise valves at Project facilities[11].

The Licensee shall implement the spill cessation schedules presented in Tables 18 through 21 as soon as reasonably practicable but no later than 90 days following license issuance, unless otherwise approved by the Deputy Director. In the event that facility modifications are needed to achieve any of the spill cessation schedules, the Licensee shall submit, no later than 60 days following license issuance, a request for any alternative timelines for implementation of spill cessation and reduction provisions to the Deputy Director for review and consideration of approval. The request shall

[11] Whenever possible, the testing of valves should be scheduled to limit impacts to water quality and beneficial uses.

include specific information on which facility or facilities requires modification, support for the alternative timeline(s), and spill cessation and reduction measures the Licensee proposes to implement in the interim period between license issuance and completion of facility modifications. The Licensee shall implement the spill cessation and reduction measures required by this certification within 15 days of completing any approved modifications to a facility for which modifications were approved. The Deputy Director may require modifications as part of any approval.

The mean daily flow referenced in Tables 18 through 21 is the average of the incremental instantaneous flow readings (from midnight (12:00 AM) of one day to midnight (12:00 AM) of the next day). The instantaneous flow is the value used to construct the mean daily flow value and shall be measured in 15-minute or more frequent increments, unless otherwise approved by the Deputy Director. When implementation of the spill cessation schedules are underway, as required by Tables 18 through 21, and a precipitation event increases the instream flow above the mean daily flow requirement, it will not be considered a violation of the schedule to the extent the increase in mean daily flow is associated with the precipitation event. Unless otherwise approved by the Deputy Director, the Licensee shall resume the spill cessation schedule based on the mean daily flow at the time the precipitation event concludes.

6(A) Spill Cessation and Reduction on Middle Yuba River below Milton Diversion Dam

The Licensee shall implement the spill cessation schedule in Table 18 after May 1 of each calendar year or as soon as the Licensee closes the upstream Jackson Meadows Dam spill gates, whichever occurs later. In addition, the Licensee shall operate the Project to avoid short-term spills that would increase instream flows more than 100 percent in a 12-hour period between the end of the spill cessation and September 30 in years when the spill cessation schedule is implemented, or from May 1 through September 30 in years where spill cessation does not occur (i.e., no spills occur).

Table 18. Spill Cessation Flow Schedule in the Middle Yuba River below Milton Diversion Dam after May 1 (as measured in cfs at USGS Gage No. 11408550)[1]

Number of Days to Maintain Flow	Mean Daily Flow
6 days	300 cfs[2]
3 days	225 cfs[2]
3 days	150 cfs[2]
3 days	100 cfs[2]
3 days	80 cfs[2]
2 days	60 cfs[2]
2 days	50 cfs[2]

[1] If the peak spill flow is greater than or equal to the highest flow on the spill cessation schedule, then the spill flows shall be decreased according to this schedule. If the peak spill flow is less than the highest flow on the schedule, then the spill flows shall be decreased according to the schedule from the observed flow downward (e.g., if peak spill flows were 100 cfs, then the spill cessation would begin with maintaining

flows for three days at 100 cfs, and decrease to 80 cfs for an additional three days). While the table shows the spill cessation schedule continuing until Target Flows are 50 cfs, each spill cessation event shall stop when the applicable MIF shown in Table 2 of Condition 1 is reached; i.e., the spill cessation event shall end at the applicable MIF.

[2] During spill cessation, the actual mean daily flow on each day may vary within 10 percent of the flows required in Table 18.

6(B) Spill Cessation and Reduction on Canyon Creek below Bowman-Spaulding Diversion Dam

The Licensee shall implement the spill cessation schedule in Table 19 after April 1 of each calendar year. In addition, the Licensee shall operate the Project to avoid short-term spills that would increase instream flows more than 100 percent in a 12-hour period between the end of the spill cessation and September 30 in years when the spill cessation schedule is implemented, or from April 1 through September 30 in years where spill cessation does not occur.

Table 19. Spill Cessation Flow Schedule in Canyon Creek below the Bowman-Spaulding Diversion Dam after April 1 (as measured in cfs at USGS Gage No. 11416500)[1]

Number of Days to Maintain Flow	Mean Daily Flow
1	275[2]
1	230[2]
1	200[2]
2	160[2]
2	130[2]
2	100[2]
2	85[2]
3	70[2]
3	55[2]
4	45[2]

[1] If the peak spill flow is greater than or equal to the highest flow on the spill cessation schedule, then the spill flows shall be decreased according to this schedule. If the peak spill flow is less than the highest flow on the schedule, then the spill flows shall be decreased according to the schedule from the observed flow downward (e.g., if peak spill flows were 100 cfs, then the spill cessation would begin with maintaining flows for two days at 100 cfs, and decrease to 85 cfs for an additional two days). While the table shows the spill cessation schedule continuing until Target Flows are 45 cfs, each spill cessation event shall stop when the applicable MIF shown in Table 8 of Condition 1 is reached; i.e., the spill cessation event shall end at the applicable MIF.

[2] The actual mean daily flow on each day may vary within 10 percent of the flows required in Table 19.

6(C) Spill Cessation and Reduction on Bear River below Dutch Flat Afterbay Dam

The Licensee shall implement the spill cessation schedule in Table 20 if Licensee-caused[12] spills last three days or less, or Table 21 if Licensee-caused spills last more than three days, between May 1 and September 30 of each year. The spill cessation schedules in Table 20 and Table 21 shall begin when the Chicago Park Flume and Powerhouse are brought back on-line and the Dutch Flat Afterbay ceases spilling, as observed at the spillway.

Table 20. Spill Cessation Flow Schedule on Bear River below Dutch Flat Afterbay Dam after May 1 when spills last 3 days or less (as measured in cfs at USGS Gage No. 11421790)[1]

Number of Days to Maintain Flow	Mean Daily Flow
1	75[2]
1	50[2]
1	25[2]

1. If the peak spill flow is greater than or equal to the highest flow on the spill cessation schedule, then the spill flows shall be decreased according to this schedule. If the peak spill flow is less than the highest flow on the schedule, then the spill flows shall be decreased according to the schedule from the observed flow downward (e.g., if peak spill flows were 50 cfs, then the spill cessation would begin with maintaining flows for one day at 50 cfs, and decrease to 25 cfs for an additional day). While the table shows the spill cessation schedule continuing until Target Flows are 25 cfs, each spill cessation event shall stop when the applicable MIF shown in Table 14 of Condition 1 is reached; i.e., the spill cessation event shall end at the applicable MIF.
2. The actual mean daily flow on each day may vary within 10 percent of the flows required in Table 20.

Table 21. Spill Cessation Flow Schedule on Bear River below Dutch Flat Afterbay Dam after May 1 when Spills Last more than 3 days (as measured in cfs at USGS Gage No. 11421790)[1]

Number of Days to Maintain Flow	Mean Daily Flow
7	75[2]
7	50[2]
7	25[2]

1. If the peak spill flow is greater than or equal to the highest flow on the spill cessation schedule, then the spill flows shall be decreased according to this schedule. If the peak spill flow is less than the highest flow on the schedule, then the spill flows shall be decreased according to the schedule from the observed flow downward (e.g., if

[12] Licensee-caused spills at Dutch Flat Afterbay Dam are defined as spills caused by the Chicago Park Flume and/or Powerhouse being out of service due to planned, unplanned, or emergency outages or caused by restricted capacity of the Chicago Park Flume. The Licensee shall report Licensee-caused spills to the Deputy Director within four days of the spill's initiation and identify the associated spill cessation schedule the Licensee will be implementing to comply with this condition.

peak spill flows were 50 cfs, then the spill cessation would begin with maintaining flows for seven days at 50 cfs, and decrease to 25 cfs for an additional seven days). While the table shows the spill cessation schedule continuing until Target Flows are 25 cfs, each spill cessation event will stop when the applicable MIF shown in Table 14 of Condition 1 is reached; i.e., the spill cessation event shall end at the applicable MIF.

2. The actual mean daily flow on each day may vary within 10 percent of the flows required in Table 21.

6(D) Spill Reduction on Bear River below Rollins Dam

The Licensee shall manage flow in the Bear River below Rollins Dam to match inflow to Rollins Reservoir when Rollins Reservoir elevation is between 2,168 and 2,171 feet. After May 1 of each calendar year and when Rollins Dam stops spilling, the Licensee shall reduce flow releases from Rollins Dam in a manner that maintains Rollins Reservoir surface elevation between 2,168 and 2,171 feet while also maintaining flow releases below Rollins Dam so that the stage (water depth) in the Bear River does not decrease by more than one foot during any three-week period as measured at USGS gage no. 11422500.

The requirements of Condition 6(D) may be temporarily modified if required by equipment malfunction reasonably beyond the control of the Licensee, as directed by law enforcement authorities, or in emergencies as defined by Condition 1(C). The Licensee shall implement the notification and other requirements in Condition 1(C) following a temporary modification to the provisions of 6(D) that is reasonably beyond the control of the Licensee, as directed by law enforcement, or in emergencies.

CONDITION 7. Canal Outages

No later than 30 days following license issuance, the Licensee shall manage canal outages of the Project's Bowman-Spaulding Conduit and coordinate Project operations (Condition 17) for outages of PG&E's Drum Canal[13] as required by this condition.

For the purpose of this condition, there are three types of canal outages:

- Annual planned outages that are defined as outages for routine maintenance and are preformed around the same time each year;
- Non-routine planned outages that are defined as outages for high priority/major maintenance that are performed under planned conditions, but do not occur during the annual planned outages; and
- Emergency outages, which are defined as outages due to emergencies as defined in Condition 1(C).

During the annual meeting (Condition 19), the Licensee shall inform meeting participants about annual planned outages of the Bowman-Spaulding Conduit and any

[13] Part of the Upper Drum-Spaulding Hydroelectric Project (FERC Project No. 2310).

coordinated Project operations for outages of PG&E's Drum Canal. The Licensee shall include the anticipated timeframe that the annual planned outages are scheduled to occur, and any non-routine planned outages that are already planned at the time of the annual meeting for the upcoming year.

The Licensee shall provide USFS, BLM, CDFW and State Water Board staff as much notice as is reasonably possible for any annual planned outages or non-routine planned outages of the Bowman-Spaulding Conduit or coordinated Project operations (Condition 17), for outages of PG&E's Drum Canal that were not know prior to the annual meeting (Condition 19).

7(A) Bowman-Spaulding Conduit

During the first 30 days of an outage at the Bowman-Spaulding Conduit, MIF downstream of the stream reaches affected by the outage shall be equal to the flows upstream of each stream reach's diversion location. Upstream flow does not need to be monitored during the outage. The Licensee shall comply with the MIFs during outages by not diverting any water from these reaches into Bowman-Spaulding Conduit. This applies to the following stream reaches:

- Texas Creek below Texas Creek Diversion Dam;
- Clear Creek below Bowman-Spaulding Conduit;
- Trap Creek below Bowman-Spaulding Conduit;
- Fall Creek below Fall Creek Diversion Dam; and
- Rucker Creek below Bowman-Spaulding Conduit.

The MIF listed above (i.e., inflow above diversion; no diversion into Bowman-Spaulding Conduit) are required during the first 30 days of annual planned outages and non-routine planned outages of the Bowman-Spaulding Conduit. In an emergency outage of the Bowman-Spaulding Conduit, the Licensee shall implement the MIF in this condition as soon as feasible and shall maintain the MIF for 30 days or until the emergency outage concludes, whichever comes first. If an annual planned outage, non-routine planned outage, or emergency outage is anticipated to extend past 30 days or does extend past 30 days and the Licensee is unable to maintain MIFs, the Licensee shall consult with USFS, BLM, CDFW, and State Water Board staff to determine an appropriate MIF for the remainder of the outage. Until consultation is concluded, the Licensee shall maintain the MIFs required by this condition. Following conclusion of consultation, the Licensee shall implement the agreed-to MIF as soon as it is feasible to do so for the remainder of the outage. If a MIF cannot be agreed to based on consultation, the Deputy Director may establish the MIF for the remainder of the outage period.

7(B) PG&E's Upper Drum-Spaulding Hydroelectric Project Drum Canal

During outages of PG&E's Drum Canal, the Licensee shall comply with the MIF at Bear River below Dutch Flat Afterbay Dam (Table 14) until the elevation of Dutch Flat Afterbay reaches a water surface elevation of 2,700 feet. Once the water surface

elevation of Dutch Flat Afterbay reaches 2,700 feet, the MIF at Bear River below Dutch Flat Afterbay Dam becomes equal to the inflow at Dutch Flat Afterbay Dam until the Drum Canal outage ends.

7(C) Canal Fish Rescue

The Licensee shall implement NID's *Canal Outages Fish Rescue Plan* as submitted to FERC by the USFS on November 20, 2013 (USFS, 2013b), for all annual non-routine canal outages, and emergencies (to the extent feasible).

CONDITION 8. Erosion and Sediment Control

The Licensee shall implement the following provisions related to erosion and sediment control.

8(A) Erosion and Sediment Control

No later than one year following license issuance, the Licensee shall submit an Erosion Control and Sediment Management Plan (Erosion and Sediment Plan) to the Deputy Director for review and consideration for approval. The Deputy Director may require modifications as part of any approval. The goal of the Erosion and Sediment Control Management Plan is to minimize Project-related erosion and sedimentation impacts for the term of the FERC license. At a minimum, the Erosion and Sediment Plan shall include the measures in the *Erosion and Sediment Control Management Plan* filed by USFS with FERC on April 11, 2014 (USFS, 2014b), with the following additions:

1. Initial and periodic inventory and monitoring of potential erosion and sediment control treatment sites. Inventory and monitoring shall include assessment of landslide hazard and slope stability by a qualified geologist for slopes above and below sections of open canal and dam abutments that can cause the structure to breach;
2. Identification of best management practices (BMPs) that will be implemented to control erosion and sedimentation, which at a minimum shall include the most current USFS *National Best Management Practices for Water Quality Management on National Forest System Lands*[14] (USFS, 2012) and other appropriate documents;
3. Criteria for prioritizing and ranking erosion sites for treatment, and an associated schedule for each treatment site;
4. Coordination with Condition 8(B) Channel Stabilization and Condition 8(C) Canal Release Points;
5. Performance metrics to assess the effectiveness of erosion and sediment control BMPs at reducing Project-related impacts;
6. Anticipated maintenance activities;

[14] Volume 1: National Core BMP Technical Guide (FS-990a). Issued April 2012. Available online at: https://www.fs.fed.us/naturalresources/watershed/bmp.shtml. Last accessed August 11, 2020.

7. Implementation and effectiveness monitoring and reporting to ensure performance metrics are met;
8. Documentation of consultation with USFS, BLM, CDFW, USFWS, and State Water Board staff, comments and recommendations made, and a description of how the Erosion and Sediment Plan incorporates or addresses the comments and recommendations;
9. For construction and maintenance activities that may result in erosion or sedimentation that are not specifically covered by the State Water Board's General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit) (State Water Board, 2009), and amendments thereto or this plan, the Licensee shall develop and implement Water Quality Monitoring and Protection Plans (Condition 8(D)) for Deputy Director review and consideration for approval); and
10. Format and schedule for reports to document, summarize, and analyze monitoring results. Reports shall include identification of any potential concerns, effectiveness of erosion and sediment control measures, and any proposed conditions by the Licensee for modifications to erosion control BMPs to better address Project-related impacts. Reports shall be submitted to USFS, BLM, CDFW, USFWS, and State Water Board staff. The Deputy Director may require implementation of additional monitoring or other actions in response to the information provided in the monitoring reports.

Any modifications to the Erosion and Sediment Plan require approval by the Deputy Director prior to implementation. The Licensee shall file with FERC the Deputy Director-approved Erosion and Sediment Plan, any approved amendments thereto, and any additional required actions. The Licensee shall implement the Erosion and Sediment Plan, any amendments thereto, and any additional required actions upon receipt of Deputy Director and any other required approvals, in accordance with the schedule and requirements specified therein.

8(B) Channel Stabilization

No later than one year following license issuance, the Licensee shall submit a Channel Stabilization Plan to the Deputy Director for review and consideration for approval. The Deputy Director may require modifications as part of any approval. The purpose of the Channel Stabilization Plan is to reduce Project-related erosion and sedimentation impact in Project channels. At a minimum, the Channel Stabilization Plan shall incorporate information from NID's *Clear and Trap Creeks Channel Stabilization Plan*, included in the Appendix E4 of its Amended FLA (NID, 2012b), with the following additions:

1. Initial and periodic assessments and monitoring of potential channel stabilization treatment sites;
2. Identification of channel stabilization measures that will be implemented;
3. Criteria for prioritizing and ranking channel stabilization sites for treatment, and an associated schedule for each treatment site;

4. Coordination of Channel Stabilization Plan activities with Condition 8(A) Erosion and Sediment Control and Condition 8(C) Canal Release Points;
5. Performance metrics to assess the effectiveness of channel stabilization measures on reducing Project-related impacts to channel conditions;
6. Anticipated maintenance activities and associated schedule;
7. Implementation and effectiveness monitoring and reporting to ensure performance metrics are met;
8. Implementation of further actions to maintain the effectiveness of channel stabilization measures based on the monitoring results or new information related to the conditions in the watershed that may be impacted by Project operations;
9. Documentation of consultation with USFS, BLM, CDFW, USFWS, and State Water Board staff, comments and recommendations made, and a description of how the Channel Stabilization Plan incorporates or addresses the comments and recommendations; and
10. Format and schedule for reports to document, summarize, and analyze monitoring results. Reports shall include identification of any potential concerns, effectiveness of channel stabilization measures, and any proposed modifications to the channel stabilization measures to better address Project-related impacts. Reports shall be submitted to USFS, BLM, CDFW, USFWS and State Water Board staff. The Deputy Director may require implementation of additional monitoring or other actions in response to the information provided in the monitoring reports.

Any modifications to the Channel Stabilization Plan require approval by the Deputy Director prior to implementation. The Licensee shall file with FERC the Deputy Director-approved Channel Stabilization Plan, amendments thereto, and any additional required actions. The Licensee shall implement the Channel Stabilization Plan, any amendments thereto, and any additional required action upon receipt of Deputy Director and any other required approvals, in accordance with the schedule and requirements specified therein.

8(C) Canal Release Points

No later than two years following license issuance, the Licensee shall submit a Canal Release Point Plan to the Deputy Director for review and consideration for approval. The Deputy Director may require modifications as part of any approval. The goal of the Canal Release Point Plan is to minimize erosion at Project canal drainage structures, release points, spill structures, and immediate downstream of spillway channels (collectively referred to as “canal release points”). At a minimum, the Canal Release Point Plan shall incorporate the measures in USFS’s *Canal Release Point Plan*, filed with FERC on April 11, 2014 (USFS, 2014a), with the following additions:

1. Initial and periodic assessment and monitoring of canal release points by a qualified engineering geologist;
2. Identification of canal release points that need treatment and the measures that will be implemented;

3. Criteria for prioritizing and ranking canal release point sites for treatment, and an associated schedule for each site;
4. Coordination of Canal Release Point Plan activities with Condition 8(A) Erosion and Sediment Control and Condition 8(B) Channel Stabilization;
5. Performance metrics to assess the effectiveness of measures on reducing Project-related impacts at canal release points;
6. Anticipated maintenance activities to ensure the long-term and ongoing effectiveness of the measures implemented to address Project-related impacts from canal release points;
7. Implementation and effectiveness monitoring and reporting to ensure performance metrics are met;
8. Documentation of consultation with USFS, BLM, CDFW, USFWS, and State Water Board staff, comments and recommendations made, and a description of how the Canal Release Point Plan incorporates or addresses the comments and recommendations; and
9. Format and schedule for reports to document, summarize, and analyze monitoring results. Reports shall include identification of any potential concerns, an assessment of the effectiveness of implemented measures, and any proposed modifications to better address Project-related impacts. Reports shall be submitted to USFS, BLM, CDFW, USFWS and State Water Board staff. The Deputy Director may require implementation of additional monitoring or other actions in response to the information provided in the monitoring reports.

Any modifications to the Canal Release Point Plan require approval by the Deputy Director prior to implementation. The Licensee shall file with FERC the Deputy Director-approved Canal Release Point Plan, any approved amendments thereto, and any additional required actions. The Licensee shall implement the Canal Release Point Plan, any amendment thereto, and any additional required actions upon receipt of Deputy Director and any other required approvals, in accordance with the schedule and requirements specified therein.

8(D) Construction and Maintenance

When applicable, the Licensee shall comply with the State Water Board's *General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities* (Construction General Permit)[15] (State Water Board, 2009), and amendments thereto. For construction and maintenance activities with the potential to impact water quality or beneficial uses that are not subject to the Construction General Permit and/or that are not covered by another condition of this certification[16], the Licensee shall prepare and implement site-specific Water Quality Monitoring and Protection Plans (WQMP Plans) for Deputy Director approval. WQMP Plans must demonstrate

[15] Water Quality Order No. 2009-0009-DWQ and NPDES No. CAS000002, as amended by Order No. 2010-0014-DWQ and Order No. 2012-0006-DWQ.

[16] For example, channel stabilization activities covered by Condition 8(B) would not be required to have a separate WQMP Plan.

compliance with sediment and turbidity water quality objectives in the Water Quality Control Plan for the Sacramento River Basin and the San Joaquin River Basin (SR/SJR Basin Plan) (Central Valley Regional Water Board 2018). The WQMP Plans shall be consistent with the most current USFS *National Best Management Practices for Water Quality Management on National Forest System Lands* (USFS, 2012) and other appropriate documents.

The Licensee shall submit WQMP Plans to the Deputy Director for review and approval at least 120 days prior to the desired start date of the applicable construction or maintenance activity. The objective of the WQMP Plans shall be to identify and implement control measures for construction, maintenance, or other activities with the potential to cause erosion, stream sedimentation, fugitive dust, soil mass movement, release of hazardous materials, or other water quality impairment.

WQMP Plans shall be based on actual site geologic, soil, and groundwater conditions, and at a minimum shall include:

- The relevant elements of Erosion and Sediment Plan (Condition 8(A));
- A description of site conditions and the proposed activity;
- Detailed descriptions, design drawings, and specific topographic locations of all control measures in relation to the proposed activity, which may include:
    - Measures to divert runoff away from disturbed land surfaces;
    - Measures to collect and filter runoff from disturbed land surfaces, including sediment ponds at the diversion and powerhouse sites; and
    - Measures to dissipate energy and prevent erosion;
- Revegetation measures for disturbed areas, which shall include use of native plants and locally-sourced plants and seeds; and
- A monitoring, maintenance, and reporting schedule.

The Deputy Director may require modifications as part of any approval. The Licensee shall file with FERC the Deputy Director-approved WQMP Plans, and any approved amendments thereto. The Licensee shall implement the WQMP Plans upon receipt of Deputy Director approval and any other required approvals, in accordance with the schedule and requirements specified therein.

CONDITION 9. Large Woody Material Management

No later than one year following license issuance, the Licensee shall submit a Large Woody Material Management Plan (LWMM Plan) to the Deputy Director for review and consideration for approval. The LWMM Plan shall be developed in consultation with USFS, USFWS, BLM, DSOD, CDFW, and State Water Board staff. The Deputy Director may require modifications as part of any approval. The objective of the LWMM Plan shall be to ensure instream large woody material is available downstream of Project facilities. At a minimum, the LWMM Plan shall include:

- For Canyon, Jackson, Texas, Fall, Clear, Trap, and Rucker creeks as well as the Bear, Middle, and South Yuba rivers, a description of: (a) what constitutes large woody material (i.e., size criteria) that will be captured, removed, stored, and

placed as part of this condition; and (b) how other woody material will be handled or disposed of as part of the Project's operations;

- Proposed monitoring to assess the effectiveness of the LWMM Plan (e.g., mobilization and distribution of large woody material);
- Detailed description of the methods, locations, volume, and frequency of large woody material collection, removal, storage, and placement in Project stream reaches for Jackson Meadows Dam, Milton Diversion Dam, Sawmill Dam, French Dam, Faucherie Dam, Bowman Dam, and diversion dams on Clear, Texas, Trap, Fall, and Rucker creeks. At a minimum, specifics for Jackson Meadows Dam, Milton Diversion Dam, Sawmill Dam, French Dam, Faucherie Dam, and Bowman Dam shall include:
    - At Jackson Meadows Dam, at a minimum, all sizes of woody material larger than eight inches in diameter and less than 14 feet in length shall be allowed to continue downstream of the dam. If the woody material is greater than eight inches in diameter, but longer than 14 feet, it shall be cut to approximately 14 feet in length and allowed to continue downstream of the dam. Smaller sized woody material shall also be allowed past the dam;
    - At Milton Diversion Dam, Sawmill Dam, French Dam, and Faucherie Dam, at a minimum, all sizes greater than eight inches in diameter and less than 36 feet in length shall be allowed to continue downstream of the dams. If the woody material is greater than eight inches in diameter and longer than 36 feet, it shall be cut to approximately 36 feet in length and allowed to continue downstream of the dams. Smaller sized woody material shall also be allowed past the dams;
    - At Bowman Dam, at a minimum, all sizes of woody material larger than eight inches in diameter and less than four feet in length shall be allowed to continue downstream of the dam. If the woody material is greater than eight inches in diameter and longer than four feet in length, it shall be cut to approximately four feet in length and allowed to continue downstream of the dam. Smaller sized woody material shall also be allowed past the dam;
- Method the Licensee will use to determine if root wads present a dam safety risk. At each Project dam, if the root wad would not present a risk to the safety of the dam, the root wad shall be allowed to continue downstream of the dam;
- A monitoring and reporting program that describes how the Licensee will evaluate and report on the performance of LWMM efforts. The program shall include the criteria that will be used to evaluate the performance of LWMM measures. The Licensee shall propose any updates to the LWMM Plan based on the monitoring results. Reports shall be submitted to the Deputy Director, BLM, CDFW, DSOD, and USFS. The Deputy Director may require implementation of additional monitoring, LWMM measures, or other actions in response to the information provided in the monitoring reports;
- Removal of large woody material from the dams or dam spillways when directed by FERC or DSOD;
- An adaptive management program that describes how the Licensee plans to adjust LWMM and monitoring methods based on evaluation of information and monitoring resulting from implementation of the LWMP Plan; and

- Documentation of consultation with USFS, USFWS CDFW, DSOD, BLM, and State Water Board staff, including comments and recommendations made in connection with the LWMM Plan, and a description of how the LWMM Plan incorporates or addresses the comments and recommendations.

Any modifications to the LWMM Plan require approval by the Deputy Director prior to implementation. The Licensee shall file with FERC the Deputy Director-approved LWMM Plan, any approved amendments thereto, and any additional required action(s). The Licensee shall implement the LWMM Plan, any amendment thereto, and any additional required action(s) upon receipt of Deputy Director and any other required approvals.

CONDITION 10. Entrainment Prevention

No later than one year following license issuance, the Licensee shall submit a Fish Entrainment Prevention Plan (Entrainment Plan) to the Deputy Director for review and consideration for approval. The Entrainment Plan shall provide for the installation and operation of a fish screen at or near the Milton-Bowman Diversion Dam. The Entrainment Plan shall be developed in consultation with CDFW, USFWS, USFS, and State Water Board staff. The Deputy Director may require modifications as part of any approval. The objective of the Entrainment Plan shall be to reduce mortality of all life stages of resident rainbow trout due to entrainment and impingement at the Milton-Bowman Diversion Conduit intake. Consistent with USFS's revised 4(e) condition 32 (USFS, 2014c), the Entrainment Plan shall specify the construction and maintenance of a retractable cylindrical fish screen system to be installed in the Milton Diversion impoundment in front of the existing Milton-Bowman Conduit intake, unless a different system is agreed on during development of the Entrainment Plan. At a minimum, the Entrainment Plan shall include:

- The proposed fish screen system to be installed and operated by the Licensee;
- The schedule for installation and operation of the fish screen system, including identification of any necessary permits;
- Identification of water quality measures that will be implemented to protect water quality and beneficial uses when installing, operating, and maintaining the fish screen system;
- A monitoring and reporting program that describes how the Licensee will evaluate and report on the performance of the fish screen system. This program shall include the proposed monitoring methods, frequency, and criteria that will be used to evaluate the performance of LWMM measures. The Licensee shall propose any updates to the Entrainment Plan based on the monitoring results. Reports shall be submitted to the Deputy Director for review and consideration of approval. Reports shall also be provided to CDFW, USFWS, and USFS. The Deputy Director may require implementation of additional monitoring or other actions in response to the information provided in the monitoring reports; and
- Documentation of consultation with USFS, CDFW, USFWS, and State Water Board staff, including comments and recommendations made in connection with the Entrainment Plan, and a description of how the plan incorporates or addresses the comments and recommendations.

The Licensee shall file with FERC the Deputy Director-approved Entrainment Plan, any approved amendments thereto, and any additional required action(s). The Licensee shall implement the Entrainment Plan, any approved amendments thereto, and additional actions upon receipt of Deputy Director and any other required approvals, in accordance with the schedule and requirements specified therein.

CONDITION 11. Aquatic Invasive Species Management

No later than one year following license issuance, the Licensee shall submit an Aquatic Invasive Species Management and Monitoring Plan (Invasive Species Plan) to the Deputy Director for review and consideration for approval. The Invasive Species Plan shall be developed in consultation with USFS, BLM, CDFW, the Central Valley Regional Water Board, and State Water Board staff. The Deputy Director may require modifications as part of any approval. The Invasive Species Plan shall provide guidance the Licensee will use to manage aquatic invasive species that occur or have the potential to occur in Project-affected waters. The objectives of the Invasive Species Plan are to: (1) identify and implement BMPs to minimize and prevent the introduction and spread of aquatic invasive species into and throughout Project-affected waters; (2) provide education and outreach to ensure public awareness of the potential effects of aquatic invasive species throughout Project-affected waters and actions needed to avoid or address them; (3) develop and implement monitoring programs to ensure early detection of aquatic invasive species; and (4) monitor the spread of established aquatic invasive species. At a minimum, the Invasive Species Plan shall include:

- The purpose of the plan;
- Identification of aquatic invasive species that occur or have the potential to occur in Projects-affected waters. For those that occur, include information on where the aquatic invasive species occurs and its density;
- BMPs that will be implemented to manage aquatic invasive species;
- An education and outreach program that will be implemented to ensure public awareness and actions to avoid the introduction and spread of aquatic invasive species;
- A monitoring and reporting program that will be implemented to ensure early detection of new aquatic invasive species and monitor the spread or reduction of established aquatic invasive species. The monitoring program shall include the species that will be monitored for, monitoring protocols, frequency, and locations. The program shall describe how the Licensee will evaluate and report on the performance of aquatic invasive species management efforts. The program shall include the criteria that will be used to evaluate the performance of aquatic invasive species BMPs. The reports shall include identification of changes associated with the presence of aquatic invasive species in Project-affected waters and recommendations to address the presence. The Deputy Director may direct the Licensee to implement additional actions to address aquatic invasive species in Project-affected waters. The Licensee shall propose any updates to the plan based on the monitoring results or other available information. Reports shall be submitted to USFS, BLM, CDFW, Central Valley Regional Water Board, and the Deputy Director;

- An adaptive management program that describes how the Licensee plans to adjust aquatic invasive species monitoring methods based on evaluation of information and monitoring resulting from implementation of the plan; and
- Documentation of consultation with USFS, CDFW, Central Valley Regional Water Board, and State Water Board staff, including comments and recommendations made in connection with the plan, and a description of how the plan incorporates or addresses the comments and recommendations.

Any modifications to the Invasive Species Plan require approval by the Deputy Director prior to implementation. The Licensee shall file with FERC the Deputy Director-approved Invasive Species Plan, any approved amendments thereto, and any additional required actions. The Licensee shall implement the Invasive Species Plan, any amendments thereto, and any additional required action upon receipt of Deputy Director approval and any other required approvals, in accordance with the schedule and requirements specified therein.

CONDITION 12. Fish Stocking

No later than one year following license issuance, the Licensee shall submit a Fish Stocking Plan to the Deputy Director for review and consideration for approval. The Deputy Director may require modifications as part of any approval. The Fish Stocking Plan shall be developed in consultation with USFS, USFWS, CDFW, and State Water Board staff. The Fish Stocking Plan shall outline fish stocking activities in Project lakes and reservoirs during the term of the FERC license. The objectives of the Fish Stocking Plan are to evaluate and monitor the locations where fish stocking occurs and identify the number of fish, and species of fish, to be stocked at each location. At a minimum, the Fish Stocking Plan shall include:

- The Project locations where fish stocking will occur and the frequency of stocking at each location including at a minimum:
    - Annual stocking in Bowman Lake, Rollins Reservoir, Faucherie Lake, and Jackson Meadows Reservoir;
    - Biannual stocking in Sawmill Lake.
- The age and number or weight of fish to be stocked at Project locations;
- Provisions for periodic review of angling use levels at stocked and non-stocked locations and the evaluation of adding or removing Project locations that should be stocked based on that periodic review;
- Provisions for eliminating fish stocking at locations based on consultation with USFS, USFWS, CDFW, and State Water Board staff;
- A schedule for annual consultation with USFS, USFWS, CDFW, and State Water Board staff in advance of the year's fish stocking activities, and distribution of an annual summary report of fish stocking activities. The contents of the annual summary report shall be outlined in this plan. The Deputy Director may require implementation of additional monitoring or other actions in response to the information provided in the annual summary reports or as part of consultation; and

- Documentation of consultation with USFS, USFWS, CDFW, and State Water Board staff, including comments and recommendations made in connection with the plan, and a description of how the plan incorporates or addresses the comments and recommendations.

Any modifications to the Fish Stocking Plan require approval by the Deputy Director prior to implementation. The Licensee shall file with FERC the Deputy Director-approved Fish Stocking Plan, any approved amendments thereto, and any additional required actions. The Licensee shall implement the Fish Stocking Plan, any amendments thereto, and any additional required actions upon receipt of Deputy Director- and any other required approvals, in accordance with the schedule and requirements specified therein.

CONDITION 13. Recreation Facilities

No later than one year following license issuance, the Licensee shall submit a Recreation Facilities Plan for review and consideration for approval by the Deputy Director. The Recreation Facilities Plan shall be developed in consultation with staff from the State Water Board, USFS, BLM, Central Valley Regional Water Board, CDFW, and USFWS. The Deputy Director may require modifications as part of any approval. At a minimum, the Recreation Facilities Plan shall include:

1. A description of routine recreation facilities maintenance that may have an impact on water quality;
2. Water quality sampling locations, method, quality assurance project plan, and frequency for: total coliform, fecal coliform, *Escherichia coli*, total petroleum hydrocarbons (gasoline range), and oil/grease. The plan shall reference the Invasive Species Plan (Condition 11) monitoring for coverage of water quality related items associated with aquatic invasive species.
3. Identification of need for aquatic vegetation management at recreation sites and actions that will be implemented;
4. Description of in-water (e.g., boat launches) and other recreation facilities to be constructed, rebuilt, closed, or removed, and identification of whether the Licensee plans to cover such activities under this plan, a separate WQMP Plan (Condition 8(D)), or the recreation facilities/activities have no potential to impact water quality and beneficial uses;
5. Identification of any action required by USFS's final 4(e) condition 57 (USFS, 2014c)that may impact water quality;
6. Description of BMPs and other measures that will be implemented to protect water quality during any actions to be implemented as part of the Recreation Facilities Plan that has the potential to impact water quality. Maintenance activities related to recreation facilities and specific recreation facility projects (e.g., improvements, removal, construction) that may impact water quality and beneficial uses shall be submitted for Deputy Director-approval as part of the original or an amended Recreation Facilities Plan or as a separate WQMP Plans (Condition 8(D)); and
7. Documentation of consultation with USFS, BLM, CDFW, USFWS, Central Valley Regional Water Board, and State Water Board staff, comments and

recommendations made in connection with the Recreation Facilities Plan, and a description of how the Recreation Facilities Plan incorporates or addresses the comments and recommendations.

Additionally, each year throughout the term of the license, the Licensee shall arrange to meet with USFS, CDFW, USFWS, Central Valley Regional Water Board, and State Water Board staff for an Annual Recreation Coordination Meeting to discuss issues regarding Project recreation facilities, use and management, protection of water quality and beneficial uses, and recreation-related resource protection. The Licensee and above-referenced agencies will mutually agree to the date of the meeting, targeted to be held within the first 90 days of each calendar year. The Licensee shall provide the agencies with an agenda and a draft annual recreation operation and maintenance plan at least 30 days in advance of the meeting.

Any additional modifications to the Recreation Facilities Plan require approval by the Deputy Director prior to implementation. The Licensee shall file with FERC the Deputy Director-approved Recreation Facilities Plan, any amendments thereto, and any additional required actions. The Licensee shall implement the Deputy Director-approved Recreation Facilities Plan, any amendments thereto, and any required additional action upon receipt of Deputy Director and any other required approvals.

CONDITION 14. Recreation Streamflows and Information

No later than one year following license issuance, the Licensee shall provide real-time streamflow information, in cfs, for the following Project-related stream reaches:

- Middle Yuba River at Jackson Meadows Reservoir Dam (USGS Gage No. 11407815)
- Middle Yuba River below Milton Reservoir Dam (USGS Gage No. 11408550)
- Canyon Creek below French Dam (USGS Gage No. 11414410)
- Canyon Creek below Bowman-Spaulding Diversion Dam (USGS Gage No. 11416500)

If a gage is not USGS rated above the compliance flow required in this certification, the Licensee shall make a good faith effort to estimate the flow above the USGS rating. The Licensee shall post all flow and other data to the California Data Exchange Center website, within 24-hours of flow measurement, unless otherwise approved by the Deputy Director. The Licensee shall publicly notice at an easily accessible location on the internet all known events that will affect recreation streamflow (e.g., powerhouse outages, construction, etc.) in Project reaches a minimum of 30 days in advance. The preference is that data shall be reported in 15-minute intervals; however, data shall be reported in no less than hourly intervals.

Recreation streamflows shall be made for boating in the Middle Yuba River below Milton Diversion Dam in any years in which spill at Milton Diversion Dam is 300 cfs or greater after May 1. The Licensee shall provide at least six continuous days of flow within ten percent of 300 cfs in the Middle Yuba River below Milton Diversion Dam, as measured at USGS Gage No. 11408550. This flow release shall occur at the same time as those

required in Condition 6(A) – Spill Cessation and Reduction on the Middle Yuba River below Milton Diversion Dam.

Recreation streamflows shall be made for boating in Canyon Creek below Bowman-Spaulding Diversion Dam in any years in which flow as measured at USGS Gage No. 11416500 is 275 cfs or greater after April 1. The Licensee shall provide at least five continuous days of flow within ten percent of 275 cfs in Canyon Creek below Bowman-Spaulding Diversion Dam as measured at the same gage. This flow release shall occur in a manner where spill cessation, as required in Condition 6(B) – Spill Cessation and Reduction on Canyon Creek below Bowman-Spaulding Diversion Dam, occurs immediately after the recreation streamflow release.

Recreation streamflows shall be made for boating in Canyon Creek below French Lake Dam between September 1 and September 30 of each year when the elevation of French Lake is above 6,638 feet above mean sea level on September 1. The Licensee shall provide at least 24-hours of continuous flow between 120 cfs and 150 cfs as measured at USGS Gage No. 11414410.

CONDITION 15. Drought Planning

No later than two years following license issuance, the Licensee shall submit a Drought Management Plan to the Deputy Director for review and consideration of approval. The Deputy Director may require modifications as part of any approval. The Drought Management Plan shall be developed in consultation with USFS, CDFW, State Water Board, and if applicable BLM staff. At a minimum, the Drought Management Plan shall include:

1. Consultation on the Drought Management Plan. Consultation shall include determination of multi-year "drought conditions". Such multi-year drought conditions may include several consecutive years in which the Governor of the State of California declares a drought emergency for Sierra, Nevada, or Placer counties, or multiple consecutive Dry, Critically Dry, or Extremely Critically Dry water year types;
2. Guidance for operations during multi-year drought conditions, including:
    - Identification of management options that may require a variance to certification conditions to address multi-year droughts;
    - Evaluation of different, specific multi-year drought scenarios;
    - Considerations that will be evaluated for different management options, such as an estimate of water to be saved and the alternative beneficial uses for which the water is being conserved; a timeline for the return to regular operations; proposed monitoring for the revised operations, including an estimation of any impacts the revised operations may have on any beneficial uses of water;
    - Proposed water conservation measures that will be implemented;
3. Consultation, notification, and regulatory approval procedures that will be implemented during drought conditions, which shall include, at a minimum, USFS, CDFW, BLM (if applicable), and State Water Board staff; and

4. Comments received during the consultation process and identification of how the Licensee addressed the comments.

Any modifications to the Drought Management Plan require approval by the Deputy Director prior to implementation. The Licensee shall file with FERC the Deputy Director-approved Drought Management Plan, and any approved amendments thereto. The Licensee shall implement the Drought Management Plan upon receipt of Deputy Director and any other required approvals, in accordance with the schedule and requirements specified therein. The Drought Management Plan shall be used to avoid, whenever possible, and inform any variance requests submitted to the State Water Board under Condition 18 (Extremely Dry Conditions).

CONDITION 16. Hazardous Substances Plan

No later than one year following license issuance, the Licensee shall submit a Hazardous Substances Plan to the Deputy Director for review and consideration for approval. The Deputy Director may require modifications as part of any approval. The Hazardous Substances Plan shall address the storage, spill prevention, cleanup, and disposal of oil and hazardous substances associated with Project activities. The Licensee shall consult with USFS, the Central Valley Regional Water Board, and State Water Board staff in the development of the plan. At a minimum, the Hazardous Substances Plan shall include:

1. The Licensee's plan to maintain in the Project area, a cache of spill cleanup equipment suitable to contain any spill from the Project;
2. Periodic reporting to inform State Water Board and Central Valley Regional Water Board staff of the location of the spill cleanup equipment and of the location, type, and quantity of oil and hazardous substances stored in the Project area;
3. Immediate reporting to State Water Board and Central Valley Regional Water Board staff and other relevant agencies of the magnitude, nature, time, date, location, and action taken for any spill;
4. A monitoring and reporting component that details water quality monitoring and corrective measures to reduce water quality impacts that will be taken if spills occur, as well as information on how hazardous materials will be properly disposed of once their useful life has past or as part of cleanup activities;
5. Evaluation of any release of hazardous substances. This evaluation shall be completed with 120 days of the release and include consultation with the agencies and a report submitted to the Deputy Director with any proposed updates to plan; and
6. Comments received during consultation and identification of how the Licensee addressed the comments.

The Deputy Director may require implementation of additional actions in response to the information provided as part of a report following a release or other information indicating a threat to water quality or beneficial uses. Any modifications to the Hazardous Substances Plan require approval by the Deputy Director prior to implementation. The Licensee shall file with FERC the Deputy Director-approved

Hazardous Substances Plan, any amendments thereto, and any additional required actions. The Licensee shall implement the Deputy Director-approved Hazardous Substances Plan, any amendments thereto, and any additional required actions upon receipt of Deputy Director and any other required approvals.

CONDITION 17. Coordinated Operations Plan

No later than one year following license issuance, the Licensee shall file a Coordinated Operations Plan with the Deputy Director for review and consideration for approval. The Coordinated Operations Plan shall cover the Project, Upper Drum-Spaulding Hydroelectric Project (FERC Project No. 2310), and Lower Drum-Spaulding Hydroelectric Project (FERC Project No. 14531). The Licensee shall consult with USFWS, USFS, CDFW, BLM, and State Water Board staff in developing the Coordinated Operations Plan. The purpose of the Coordinated Operations Plan shall be to provide for coordinated operations of the Project, Upper Drum-Spaulding Project, and the Lower Drum-Spaulding Hydroelectric Project to ensure implementation of the flow–related conditions in the Project's license, including, but not limited to, maintenance of flow requirements and ramping rates during normal operations, scheduled outages, and unscheduled outages (to the extent feasible). The Deputy Director may require modifications as part of any approval.

The Licensee shall file with FERC the Deputy Director-approved Coordinated Operations Plan, and any approved amendments thereto. The Licensee shall implement the Coordinated Operations Plan and any amendment thereto upon receipt of Deputy Director and any other required approvals, in accordance with the schedule and requirements specified therein.

The State Water Board reserves the right to modify or approve modifications to the requirements referenced in this certification upon relicensing and certification of the Upper Drum-Spaulding Hydroelectric Project and/or the Lower Drum-Spaulding Hydroelectric Project.

CONDITION 18. Extremely Dry Conditions

In the event of extremely dry conditions, which may include a year in which the Governor of the State of California declares a drought emergency for Sierra, Nevada, or and/or Placer counties, or multiple consecutive Dry, Critically Dry, or Extremely Critically Dry water years, the Licensee may request modification of the flow and related requirements of this certification. If the Licensee anticipates that it may request modification pursuant to this condition, the Licensee shall notify CDFW, USFS, USFWS, BLM, and Deputy Director of the Licensee's concerns related to flows and related requirements as early as possible, and no later than March 15 of the year in which a request may be submitted. If the Licensee requests modification pursuant to this condition, the Licensee shall develop a Revised Operations Plan in consultation with the agencies listed above and State Water Board staff for flows during the extremely dry conditions.

The Licensee shall provide interested parties with notice of the proposed Revised Operations Plan at least seven days prior to submittal to the Deputy Director.

Whenever possible, the Licensee shall provide an opportunity for interested parties to comment on the proposed Revised Operations Plan prior to submittal to the Deputy Director, and provide such comments to the Deputy Director as part of submittal of the Revised Operations Plan. The Licensee's request shall include: an estimate of water to be saved and the alternative beneficial uses for which the water is being conserved; a timeline for the return to regular operations; proposed monitoring for the revised operations, including an estimation of any impacts the revised operations may have on any beneficial uses of water; identification of measures to reasonably protect beneficial uses under the circumstances; and proposed water conservation measures that will be implemented. If conservation measures are not applicable, the Licensee shall describe the circumstances and justification for not implementing water conservation measures. The Revised Operations Plan shall also discuss how the proposal incorporates the Drought Planning (Condition 15).

The Licensee shall submit the proposed Revised Operations Plan to the Deputy Director for review and consideration for approval. The Licensee shall also provide a summary of any comments received and how the comments were addressed. The Deputy Director may require modifications to the Revised Operations Plan as part of any approval. The Licensee may implement the Revised Operations Plan upon receipt of Deputy Director and other required approvals, in accordance with the schedule and requirements specified therein. The Licensee shall file with FERC the Deputy Director-approved Revised Operations Plan, and any approved amendments thereto.

CONDITION 19. Annual Meeting and Technical Review Group

No later than one year following license issuance, the Licensee shall establish a Technical Review Group (TRG) and host annual meetings in April regarding implementation of the Project license. At a minimum, representatives from the State Water Board, CDFW, USFS, USFWS, BLM, NMFS, and Foothills Water Network shall be invited to participate in the TRG. The annual meeting shall be noticed at least 30 days in advance on the Licensee's Project webpage and open to the public. The TRG shall establish communication protocols to facilitate interactions between group members that allow for open participation and communication between all parties. The first meeting of the TRG shall be held no later than the first full calendar year after license issuance. At the annual meetings, the TRG shall:

- Review the status of implementing the FERC license and certification conditions;
- Review monitoring data from all monitoring conducted the previous year;
- Review elements of current year maintenance plans and any non-routine maintenance;
- Discuss foreseeable changes to Project facilities or features;
- Discuss the status of any watershed salmonid reintroduction plan(s);
- Discussion of planned outages of the Bowman-Spaulding Conduit and any coordinated Project operations for outages;
- Discuss necessary or anticipated revisions or modifications to plans approved as part of this certification; and
- Discuss species listing implications, including:

- Needed protection measures for species newly listed as threatened, endangered, or sensitive;
- Changes to existing plans for actions that may no longer be necessary due to delisting of a species; and
- Changes to existing plans to incorporate new information about species requiring protection.

Materials shall be provided to TRG members and other interested parties at least 30 days prior to the annual meeting. The Licensee shall submit a report to the State Water Board that summarizes the annual consultation meeting no later than 30 days following the annual consultation meeting. The Licensee may integrate the requirements of this condition with elements of its proposed condition YB-GEN1: *Annual Consultation with Forest Service and BLM*, as submitted to FERC June 18, 2012 (NID, 2012b).

CONDITION 20. Mercury Management

Within three years of license issuance, the Licensee shall evaluate the extent to which Project operations increase the mobilization or methylation of mercury and submit the evaluation to the Deputy Director for review and consideration of approval. The evaluation may use information collected during monitoring required by conditions of this certification. The Licensee shall consult with State Water Board and Central Valley Regional Water Board staff in development of the evaluation. The evaluation shall include existing water quality and fish tissue data related to mercury and the extent to which Project operations contribute to the mobilization or methylation of mercury. The evaluation shall also identify the extent to which the Licensee is implementing measures related to mercury management under its existing Project operations (e.g., posting of health warnings, etc.).

After submittal of the evaluation, the Deputy Director may require the Licensee to develop a Mercury Management Plan that addresses, to the extent feasible, Project operations and activities that increase the mobilization or methylation of mercury. The Mercury Management Plan shall be developed in consultation with the State Water Board and Central Valley Regional Water Board staff. The Mercury Management Plan shall comply with the *Tribal Subsistence Beneficial Uses and Mercury Provisions of the Inland Surface Waters, Enclosed Bays, and Estuaries (ISWEBE) Plan* (State Water Board, 2017a). The Mercury Management Plan shall include a review of potential measures to reduce the amount of methylmercury or rate of mercury methylation in the watershed as effected by the Project (such as changes to Project operations related to power generation, reservoir management, sediment dredging, and/or sediment capping), and an examination of implementation measures feasibility. The Mercury Management Plan shall also describe any necessary measures to protect human health from exposure through fish consumption (such as posting health warnings at reservoirs, operating recreational fishing as catch-and-release only, or ceasing to stock reservoirs).

If, based on the information contained in the Mercury Management Plan or other available information, the Deputy Director determines there are appropriate and feasible measures the Licensee should implement to reduce the amount of methylmercury,

reduce the mobilization or methylation of mercury, and/or protect human health, the Deputy Director will require the Licensee to develop a Mercury Reduction Implementation Plan, which shall be submitted to the Executive Director for review and consideration of approval, after notice and opportunity for hearing. The Mercury Reduction Implementation Plan shall be developed in consultation with State Water Board and Central Valley Regional Water Board staffs.

The Licensee shall file the Deputy Director- approved evaluation, Deputy Director-approved Mercury Management Plan, and Executive Director-approved Mercury Reduction Implementation Plan, together with any required modifications, with FERC. Upon receiving all necessary regulatory approvals, the Licensee shall implement the measures identified in the Mercury Reduction Implementation Plan.

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CONDITION 21. The requirements of this certification shall not become effective as conditions required to be included in the FERC license unless and until FERC sets aside the determination of waiver made in its April 16, 2020 waiver order and its July 21, 2020 order addressing arguments on rehearing or is required to do so by court order, or there is another judicial or administrative action finding that FERC improperly found waiver of the State Water Board's certification authority. The requirements of this order are not binding on or enforceable against the Licensee except to the extent they are incorporated into a FERC license or FERC license amendment, or are incorporated into another regulatory decision or order by the State Water Board or a Regional Water Board. This condition does not affect the time for filing a petition for reconsideration under section 3867 of title 23 of the California Code of Regulations, provided that the failure to seek reconsideration of this certification is not a limitation on the ability to seek reconsideration of a later issued decision or order for which reconsideration is authorized under State Water Board regulations or the Water Code.

CONDITION 22. The Licensee shall ensure no net loss of wetland or riparian habitat functions and compliance with the *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State* (State Water Board, 2019b) and the *California Wetlands Conservation Policy* (Governor's Executive Order W-59-93).

CONDITION 23. This certification is subject to modification to incorporate feasible measures to avoid or reduce significant environmental impacts or to make any necessary findings based on any environmental documents certified by the California Environmental Quality Act (CEQA) lead agency after this certification is issued, including any revisions to those environmental documents made as a result of judicial review of the CEQA leady agency's approval of the Project.

CONDITION 24. Notwithstanding any more specific provision of this certification, any plan developed as a condition of this certification requires review and consideration of approval by the Deputy Director. The State Water Board's approval authority, including authority delegated to the Deputy Director or others, includes the authority to withhold

approval or to require modification of a proposal, plan, or report prior to approval. The State Water Board may take enforcement action if the Licensee fails to provide or implement a required item in a timely manner. If a time extension is needed to submit an item for Deputy Director approval, the Licensee shall submit a written request for the extension, with justification, to the Deputy Director no later than 60 days prior to the deadline. The Licensee shall file with FERC any Deputy Director-approved time extensions. The Licensee shall not implement any plans or reports until after receiving Deputy Director approval and any other necessary regulatory approvals.

CONDITION 25. The State Water Board reserves the authority to add to or modify the conditions of this certification: (1) to incorporate changes in technology, sampling, or methodologies; (2) if monitoring results indicate that continued operation of the Project could violate water quality objectives or impair beneficial uses; (3) to implement any new or revised water quality standards and implementation plans adopted or approved pursuant to the Porter-Cologne Water Quality Control Act or section 303 of the Clean Water Act (including those identified under the Sacramento/Delta Update to the Bay-Delta Plan); (4) to coordinate the operations of this Project and other hydrologically connected water development projects, where coordination of operations is reasonably necessary to meet water quality objectives and protect beneficial uses of water; and (5) to require additional monitoring and/or other measures, as needed, to ensure that continued Project operations meet water quality objectives and protect beneficial uses.

CONDITION 26. Future changes in climate projected to occur during the FERC license term may significantly alter the assumptions used to develop the conditions of this certification. The State Water Board reserves authority to add to or modify the conditions of this certification, to require additional monitoring and/or other measures, as needed, to verify that Project operations meet water quality objectives and protect the beneficial uses assigned to Project-affected stream reaches.

CONDITION 27. The State Water Board shall provide notice and an opportunity to be heard in exercising its authority to add to or modify the conditions of this certification.

CONDITION 28. In addition to the specific conditions in this certification, the Project shall be operated in a manner consistent with all applicable requirements of the Bay-Delta Plan and SR/SJR Basin Plan.

CONDITION 29. In addition to the specific conditions in this certification, the Project shall be operated in a manner consistent with all applicable

CONDITION 30. water quality standards and implementation plans adopted or approved pursuant to the Porter-Cologne Water Quality Control Act or section 303 of the Clean Water Act. The Licensee must take all reasonable measures to protect the beneficial uses of the Middle and South Yuba River, Bear River, and their tributaries.

CONDITION 31. Unless otherwise specified in this certification or at the request of the Deputy Director, data and/or reports shall be submitted electronically in a format

accepted by the State Water Board to facilitate the incorporation of this information into public reports and the State Water Board's water quality database systems in compliance with California Water Code section 13167.

CONDITION 32. This certification does not authorize any act which results in the taking of a threatened, endangered, or candidate species or any act which is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (ESA) (Fish & G. Code, §§ 2050 – 2097) or the federal ESA (16 U.S.C. §§ 1531 – 1544). If a "take" will result from any act authorized under this certification or water rights held by the Licensee, the Licensee must obtain authorization for the take prior to any construction or operation of the portion of the Project that may result in a take. The Licensee is responsible for meeting all requirements of the applicable ESAs for the Project authorized under this certification.

CONDITION 33. The Licensee shall submit any change to the Project, including operations, facilities, technology changes or upgrades, or methodology, which could have a significant or material effect on the findings, conclusions, or conditions of this certification, to the State Water Board for prior review and written approval. The State Water Board shall determine significance and may require consultation with state and/or federal agencies. If the State Water Board is not notified of a change to the Project, it will be considered a violation of this certification. If such a change would also require submission to FERC, the change must first be submitted and approved by the Executive Director of the State Water Board unless otherwise delegated in this certification or other State Water Board approval.

CONDITION 34. In the event of any violation or threatened violation of the conditions of this certification, the violation or threatened violation is subject to any remedies, penalties, process, or sanctions as provided for under applicable state or federal law. For the purposes of section 401(d) of the Clean Water Act, the applicability of any state law authorizing remedies, penalties, process, or sanctions for the violation or threatened violation constitutes a limitation necessary to ensure compliance with the water quality standards and other pertinent requirements incorporated into this certification. 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.

CONDITION 35. The Executive Director reserves the authority to modify or add conditions to this certification if the Executive Director determines that it is reasonably foreseeable that state- or federally-listed anadromous fish species will be reintroduced into additional Project-affected streams to ensure adequate protection of SR/SJR Basin Plan objectives and beneficial uses. For this condition, "reasonably foreseeable" includes, but is not limited to, a comprehensive reintroduction effort or plan that has a reasonable likelihood of implementation within the following 18 months.

The State Water Board also reserves the authority to require the Licensee to develop and conduct studies if it is reasonably foreseeable that listed anadromous fish species will be reintroduced into Project-affected areas. Such studies shall be designed in

consultation with USFS, BLM, USFWS, NMFS, CDFW, and State Water Board staff, to develop fish passage, flows, or other measures, as well as determine appropriate modifications to the certification to minimize potential impacts and protect water quality and beneficial uses. Introduction of anadromous fish may require reevaluation of the Project facilities, flow regimes, fish stocking plans, availability of LWM, gravel augmentation, tribal cultural resources, and access to Project-affected tributaries.

CONDITION 36. In response to a suspected violation of any condition of this certification, the State Water Board or Central Valley Regional Water Board may require the holder of any federal permit or license subject to this certification to furnish, under penalty of perjury, any technical or monitoring reports the State Water Board deems appropriate, provided that the burden, including costs, of the reports shall bear a reasonable relationship to the need for the reports and the benefits to be obtained from the reports. (Wat. Code, §§ 1051, 13165, 13267, and 13383.)

CONDITION 37. This certification shall not be construed as replacement or substitution for any necessary federal, state, and local approvals. The Licensee is responsible for compliance with all applicable federal, state, or local laws or ordinances and shall obtain authorization from applicable regulatory agencies prior to the commencement of Project activities.

CONDITION 38. Any requirement in this certification that refers to an agency whose authorities and responsibilities are transferred to or subsumed by another state or federal agency, will apply equally to the successor agency.

CONDITION 39. Upon request, a construction schedule shall be provided to State Water Board staff. The Licensee shall provide State Water Board and Central Valley Regional Water Board staffs access to Project sites to document compliance with this certification.

CONDITION 40. A copy of this certification shall be provided to any contractor and all subcontractors conducting Project-related work, and copies shall remain in their possession at the Project site(s). The Licensee shall be responsible for work conducted by its contractor, subcontractors, or other persons conducting Project-related work.

CONDITION 41. Onsite containment for storage of chemicals classified as hazardous shall be away from watercourses and include secondary containment and appropriate management as specified in California Code of Regulations, title 27, section 20320.

CONDITION 42. Activities associated with operation and maintenance of the Project that threaten or potentially threaten water quality shall be subject to further review by the Deputy Director and Executive Officer of the Central Valley Regional Water Board. Any proposal for Project maintenance or repair work involving Project-affected waterbodies, including desilting of dam impoundments, impoundment drawdowns to facilitate repair or maintenance work, and tailrace dredging, shall be filed with the Deputy Director for prior review and consideration for approval.

CONDITION 43. The Licensee shall comply with the terms and conditions in the State Water Board's *National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities* (Construction General Permit; State Water Board Order 2009-0009-DWQ, as amended by State Water Board Orders 2010-0014-DWQ and 2012-0006-DWQ), and ongoing amendments during the life of the FERC license.

CONDITION 44. The Licensee shall comply with the terms and conditions in the State Water Board's *Statewide National Pollutant Discharge Elimination System Permit for Residual Aquatic Pesticide Discharges to Waters of the United States from Algae and Aquatic Weed Control Applications* (Aquatic Weed Control General Permit; State Water Board Order No. 2013-0002-DWQ and NPDES No. CAG990005, as amended by State Water Board Orders 2014-0078-DWQ, 2015-0029-DWQ, and 2016-0073-EXEC), and ongoing amendments during the life of the FERC license.

CONDITION 45. The Licensee shall use analytical methods that comply with Code of Federal Regulations, title 40, part 136, or methods approved by California's Environmental Laboratory Accreditation Program (ELAP), where such methods are available. Samples that require laboratory analysis shall be analyzed by ELAP-certified laboratories.

CONDITION 46. Nothing in this certification shall be construed as State Water Board approval of the validity of any water rights, including pre-1914 claims. The State Water Board has separate authority under the Water Code to investigate and take enforcement action, if necessary, to prevent any unauthorized or threatened unauthorized diversions of water.

CONDITION 47. This certification is subject to modification or revocation upon administrative or judicial review, including but not limited to review and amendment pursuant to California Water Code, section 13330 and California Code of Regulations, title 23, division 3, chapter 28, article 6 (commencing with section 3867).

CONDITION 48. This certification is not intended and shall not be construed to apply to any activity involving a hydroelectric facility and requiring a FERC license or an amendment to a FERC license unless the pertinent application for certification was filed pursuant to California Code of Regulations, title 23, section 3855, subdivision (b) and that application for certification specifically identified that a FERC license or amendment to a FERC license for a hydroelectric facility was being sought.

CONDITION 49. This certification is conditioned upon total payment of any fee required under California Code of Regulations, title 23, division 3, chapter 28.

Eileen Sobeck
Executive Director

August 14, 2020
Date

Enclosures: Figure 1: Yuba-Bear Hydroelectric Project area in relation to San Francisco Bay

Figure 2: Schematic of Yuba Bear Hydroelectric Project Operations

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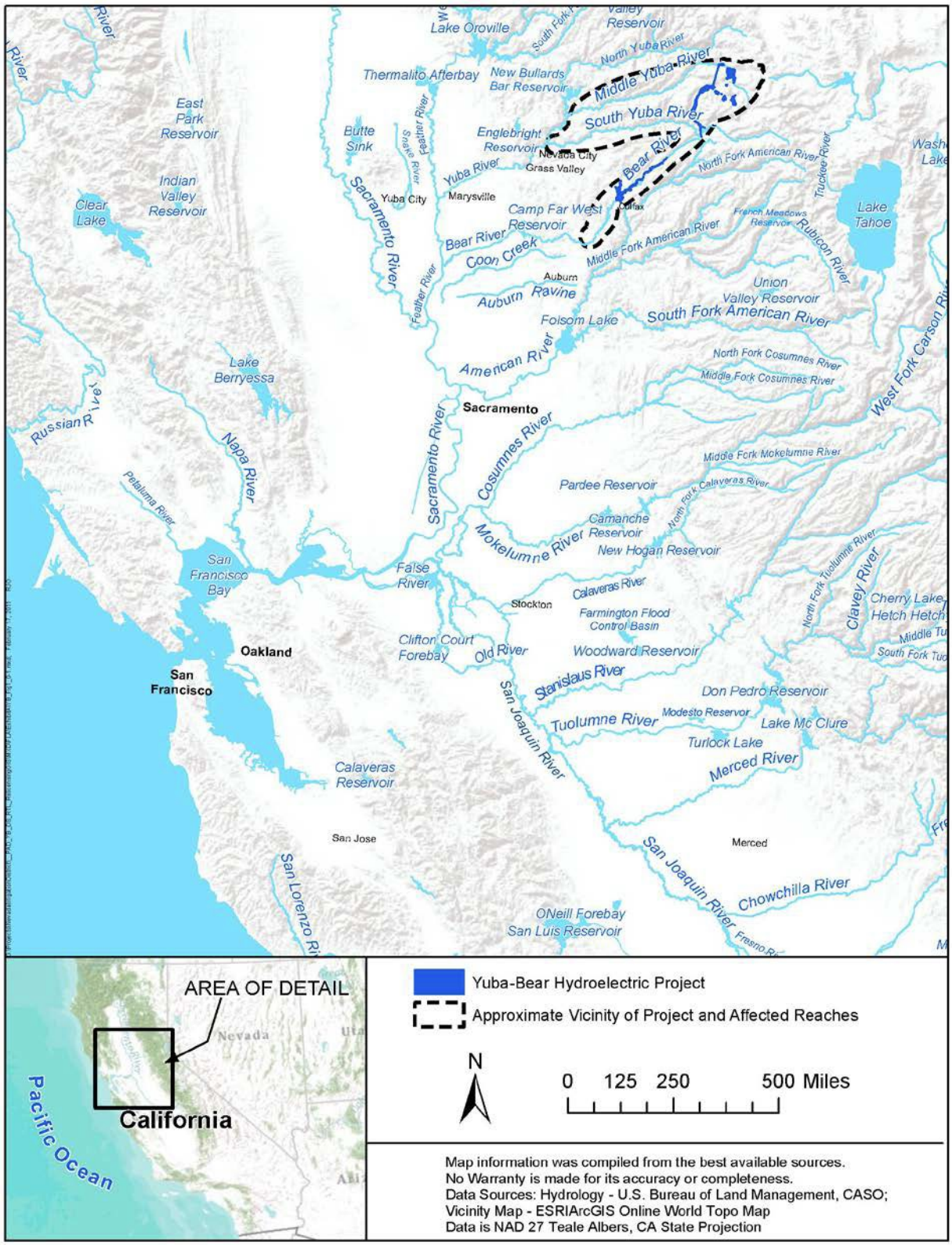

Figure 1: Yuba Bear Hydroelectric Project area in relation to San Francisco Bay
Source: (NID, 2012b)

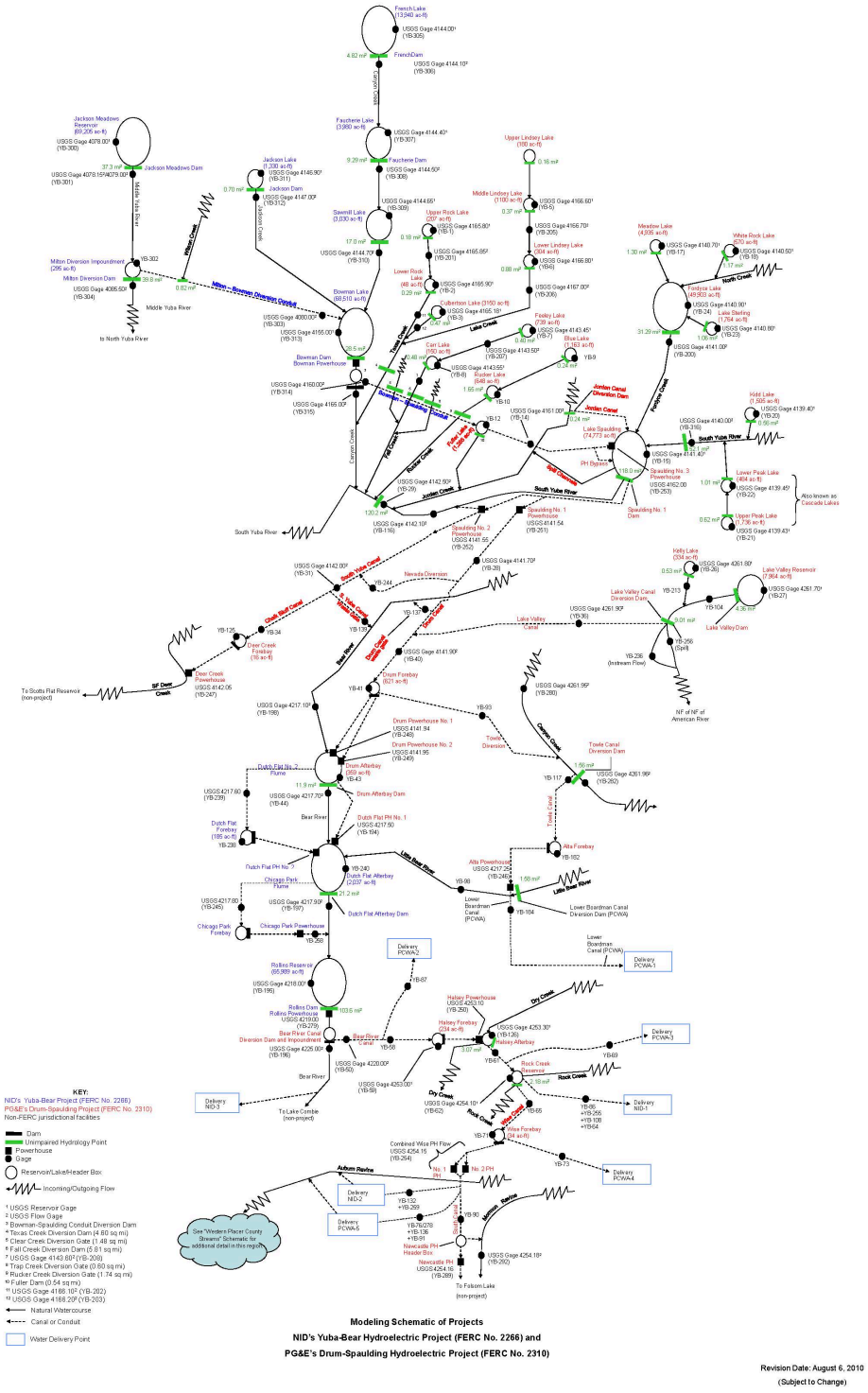

Figure 2: Schematic of Yuba Bear Hydroelectric Project Operations
Source: Nevada Irrigation District Relicensing Website, Project Maps Schematics and Fact Sheets, *Modeling Schematic of Projects* (2010)