ENVIRONMENTAL ASSESSMENT
FOR AMENDMENT APPLICATION REMOVING INSKIP DIVERSION

Battle Creek Hydroelectric Project—FERC Project No. 1121-136

California

Federal Energy Regulatory Commission
Office of Energy Projects
Division of Hydropower Administration and Compliance
888 First Street, NE
Washington, D.C. 20426

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ACRONYMS

Advisory Council	Advisory Council on Historic Preservation
APE	Area of potential effects
ASRRP	aquatic species rescue and relocation plan
BA	Biological and Essential Fish Habitat Assessment
BMP	Best management practice
California DFW	California Department of Fish and Wildlife
California SHPO	California State Historic Preservation Officer
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
cfs	Cubic feet per second
CNDDB	California Natural Diversity Database
Commission	Federal Energy Regulatory Commission
Corps	U.S. Army Corps of Engineers
CWA	Section 401(a)(1) of the Clean Water Act
dBA	A-weighted decibel
DPS	Distinct Population Segment
EA	Environmental assessment
EFH	Essential fish habitat
EIS	Environmental Impact Statement
EIR	Environmental Impact Report
EJ	Environmental Justice
EPA	Environmental Protection Agency
ESA	Endangered Species Act
ESU	Evolutionarily Significant Unit
° F	Degrees Fahrenheit
FHWA	Federal Highway Administration
FOA	Finding of Effects
FWS	U.S. Fish and Wildlife Service
GPS	Global positioning system
Interior	U.S. Department of the Interior
IPaC	Information for Planning and Consultation database
MOU	Memorandum of Understanding
National Register	National Register of Historic Places
NFBC	North Fork Battle Creek
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NPDES	National Pollutant Discharge Elimination System
OPP	Office of Public Participation
PG&E	Pacific Gas and Electric Company
PM&E	Protection, mitigation, and enhancement

Reclamation	U.S. Bureau of Reclamation
Section 7	Section 7 of the Endangered Species Act
Section 106	Section 106 of the National Historic Preservation Act
SFBC	South Fork Battle Creek
USGS	U.S. Geological Survey
Water Board	California State Water Resources Control Board
WQC	Water Quality Certification under Section 401 of the Clean Water Act

1.0 INTRODUCTION

A. Project Name: Battle Creek Hydroelectric Project

B. Project Number: P-1121-136

C. Application Type: Non-capacity amendment of license

D. Date Filed: October 28, 2022, supplemented on October 2, 2023, and December 1, 2023

E. Applicant: Pacific Gas and Electric Company

F. Water body: Battle Creek, and North Fork and South Fork Battle Creek

G. County and State: Shasta and Tehama counties, California

H. Federal Lands: The project occupies lands on the Lassen National Forest and the Bureau of Land Management

On October 28, 2022, Pacific Gas and Electric Company (licensee or PG&E) filed a request to amend its license to remove Inskip Diversion Dam at its Battle Creek Project.[1] This application was supplemented on October 2, 2023, and December 1, 2023. PG&E is requesting to remove Inskip Diversion Dam because of significant safety concerns. This request is associated with several other actions associated with the Battle Creek license that are interrelated. The history is summarized below.

In 1999, PG&E, the U.S. Department of the Interior (Interior), U.S. Bureau of Reclamation (Reclamation), U.S. Fish and Wildlife Service (FWS), National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NMFS), and the California Department of Fish and Game (California DFG)[2] entered into a Memorandum of Understanding (MOU)[3] to work together to restore fish habitat on Battle Creek and

[1] The license was issued in 1976 (56 F.P.C. 994). It was amended in 1978 (5 FERC ¶ 62,037), 1979 (6 FERC ¶ 62,083), 1980 (10 FERC ¶ 62,114, 12 FERC ¶ 62,017, and 12 FERC ¶ 62,280), 1982 (20 FERC ¶ 62,385), 1991 (57 FERC ¶ 62,078 and 57 FERC ¶ 62,112), 1994 (68 FERC ¶ 62,081 and 69 FERC ¶ 62,251), 1997 (80 FERC ¶ 62,093), 2000 (90 FERC ¶ 62,201), 2009 (128 FERC ¶ 62,135), and 2010 (131 FERC ¶ 62,166).

[2] The California DFG's name has since been changed to the California Department of Fish and Wildlife.

[3] The MOU is provided as Appendix 1 of the licensee's January 26, 2010, application.

some of its tributaries through modification of the project hydroelectric facilities and operations, including instream flow releases (Restoration Project).

The Restoration Project, as a whole, would reestablish approximately 42 miles of prime salmon and steelhead habitat in the North and South Forks of Battle Creek, plus an additional six miles of habitat on the tributaries of Battle Creek, while minimizing the loss of energy produced by the hydroelectric project.[4] Specifically, the Restoration Project is intended to benefit the state and federally listed threatened Central Valley spring-run Chinook salmon (*Oncorhychus tshawytscha*), the state and federally listed endangered Sacramento River winter-run Chinook salmon (*O. tshawytscha*), and the federally listed threatened Central Valley steelhead (*O. mykiss*).

The Restoration Project would be accomplished through modification of the existing Battle Creek Hydroelectric Project in three distinct phases (1A, 1B and 2), each of which has independent ecological and environmental benefits. Phase 1A actions were approved in an August 25, 2009 Order,[5] including increased instream flow releases, release of cold spring water to adjacent stream sections, management of those instream flows, upstream and downstream fish passage, restoration of stream function to mimic the natural hydrograph more closely, and an adaptive management approach to monitor and refine restoration actions. Phase 1B, approved in a May 21, 2010 Order[6] included: (1) the continuation of instream flow management measures under an Interim Flow Agreement; (2) the continued maintenance of water temperatures until Phase 2 is complete; and (3) a requirement to reduce the effects of operations on the stream function by more closely mimicking the natural hydrology in the watershed.

On March 2, 2015, PG&E filed an application to amend its project license for Phase 2 of the Restoration Project, in order to install a new fish screen and fish ladder at Inskip Diversion Dam; install a tailrace connector tunnel from South Powerhouse to Inskip Canal; remove Lower Ripley Creek Feeder, Soap Creek Feeder, and Coleman diversion dams; and remove South Diversion Dam. On April 2, 2019, PG&E filed a

[4] The Restoration Project consists of three phases (1A, 1B and 2). On August 25, 2009, Commission staff issued an Order Amending License (128 FERC ¶ 62,135) that authorized Phase 1A of the Restoration Project. Phase 1A authorized the installation of fish screens and ladders, the modification or removal of certain project structures and increased instream flows. Phase 1B was approved on May 21, 2010, by the Order Amending License (131 FERC ¶ 62,166). Phase 1B authorized the modification of the Inskip Powerhouse, its intake and discharge facilities.

[5] 128 FERC ¶ 62,135. Order Amending License

[6] 131 FERC ¶ 62,166. Order Amending License

letter informing the Commission that it was withdrawing its amendment application for Phase 2 of the Restoration Project, because it had determined it was no longer interested in relicensing the project and would develop a new plan to satisfy the intent of the Restoration Project. The Commission issued a Notice of Effective Date of Withdrawal of License Amendment Application on April 24, 2019.

On October 23, 2020, PG&E filed a notice of intent that it did not intend to file a new license application for the project. On February 16, 2021, the Commission issued a notice that the licensee would not be relicensing the project and requesting parties interested in obtaining a license for the Battle Creek Project, to file a Notice of Intent and Pre-Application Document. No other entity expressed an interest in relicensing the project.

On September 9, 2022, PG&E filed a new Phase 2 amendment application. The new Phase 2 requires the removal of the South Diversion Dam, Soap Creek Feeder Diversion Dam, Lower Ripley Creek Feeder Diversion Dam, and Coleman Diversion Dam and no longer includes the modifications to Inskip Diversion Dam or the tailrace connector tunnel from South Powerhouse to Inskip Canal. This proceeding is in response to PG&E's October 28, 2022 application for amendment of license to remove Inskip Diversion Dam. The new Phase 2 is being handled in a separate proceeding.

PG&E filed a plan and schedule for filing its surrender application and decommissioning plan with the Commission on November 30, 2022. In its plan, PG&E proposed to make its filing within 36 months after the approval of both the Inskip removal plan and the new Phase 2 amendment. Commission staff approved the plan and schedule by letter dated December 6, 2022.

2.0 PURPOSE AND NEED FOR ACTION

PG&E is requesting that its license for the Battle Creek Hydroelectric Project be amended to remove Inskip Diversion Dam, adjacent infrastructure, fish ladder, and approximately 30,000 to 56,000 cubic yards of sediment from behind the dam. Inskip Diversion Dam has required several significant repairs and improvements resulting from storm damage. A significant scour hole is present at the outlet of the sluiceway near the tallest section of the dam. Other portions of the dam toe are experiencing toe scour as well. Erosion of the sluiceway and dam toe present a facility safety risk and dam removal provides the most protection. Since Inskip Canal and powerhouse are currently offline, and there are no plans to bring them back online, there is no need to maintain the diversion.

In July 2005, an Environmental Impact Statement/Environmental Impact Report (2005 EIS), was issued for the Battle Creek Salmon and Steelhead Restoration Project.

The Commission was a cooperating agency in the development of the 2005 EIS, with (1) PG&E, (2) Reclamation, (3) California State Water Resources Control Board (Water Board), (4) and the California Bay-Delta Authority. The 2005 EIS includes background information, analysis of effects, and support for related license articles.[7] However, the complete removal of Inskip Diversion Dam was not considered during the development of the 2005 EIS.

This Environmental Assessment (EA) is being prepared to satisfy the Commission's responsibilities under the National Environmental Policy Act of 1969 (NEPA),[8] the Council on Environmental Quality (CEQ) regulations for implementing NEPA (40 C.F.R. 1500-1508), and the Commission's implementing regulations under 18 C.F.R. 380. Unless otherwise noted, the information contained in this EA comes from the licensee's October 28, 2022 application for amendment of license to remove Inskip Diversion Dam.

3.0 PROPOSED ACTION AND ALTERNATIVES

3.1 Project Description

The Battle Creek Hydroelectric Project consists of five developments that divert water from the North and South Forks of Battle Creek, and several tributaries and springs, for power generation at Volta, Volta 2, South, Inskip, and Coleman powerhouses, located in northern California (see *Figure 1*). Project facilities include the Volta Development, Volta 2 Development, South Development, Inskip Development, and Coleman Development (see *Figure 1* and *Figure 3*). These developments are described below. All elevations in this application are National Geodetic Vertical Datum unless otherwise noted; land surveys are based on the Mount Diablo Base and Meridian.

The amendment proposal is limited to the Inskip Development. The Inskip Development consists of: Inskip dam and canal; Lower Ripley Creek dam and feeder canal; Eagle Canyon Canal Dam; Inskip powerhouse bypass; Inskip powerhouse penstock; and Inskip powerhouse. Each component of the Inskip Development is described below.

Water is diverted from South Fork Battle Creek (SFBC) into the Inskip Canal via a masonry dam, 100 feet wide by 28 feet high. Inskip Canal has a length of 4.4 miles and a capacity of 250 cfs. It consists of 6,465 feet of unlined canal, 12,475 feet of lined canal,

[7] The 2005 EIS can be reviewed at the Restoration Project website (http://www.usbr.gov/mp/neps/neps_projdetails.cfm?Project_ID=99) or at the Commission's website at (www.ferc.gov) using the "eLibrary" link.

[8] 42 U.S.C. §§ 4321 *et seq*.

5,017 feet of unlined tunnel, 294 feet of metal flume, and a metal and concrete fish ladder. The Lower Ripley Creek Feeder and Eagle Canyon Canal supply additional water into the Inskip Canal before entering the Inskip Penstock.

Water is diverted from Ripley Creek via a concrete dam, 44 feet wide by 4 feet high into Lower Ripley Creek Feeder canal which has a length of 384 feet and a capacity of 5 cfs and consists of 316 feet of unlined canal and 68 feet of lined canal. Lower Ripley Creek Feeder discharges to Inskip Canal before entering the Inskip Penstock.

Eagle Canyon Canal diversion dam diverts water from North Fork Battle Creek (NFBC) into the canal via a masonry dam, 66 feet wide by 11 feet high. The dam is equipped with a vertical slot fish ladder. A fish screen and flow regulating gates occupy the initial 120 feet of the canal. Water diverted via Eagle Canyon Canal is discharged to Inskip Canal before entering the Inskip Penstock.

A single steel penstock, 3,271 feet long with diameter varying from 72 inches to 60 inches of riveted and welded types of construction with plate thickness varying from ¼ inch to ¾ inch, serves Inskip Powerhouse. The intake structure is masonry construction and is equipped with two steel slide gates for water control. Inskip Powerhouse is a three-level, reinforced concrete, outdoor-type powerhouse, measuring 48.5 feet by 55 feet, containing a single turbine/generator.

A bypass facility is provided to convey water around Inskip Powerhouse directly to Coleman Canal during periods when the powerhouse is out of service. The facility consists of an intake structure near the Inskip Powerhouse header box, 4,059 feet of buried reinforced concrete pipe ranging from 66-inch to 72-inch diameter, 671 feet of reinforced concrete chute ranging from 8 feet to 14 feet wide, and two hydraulic jump energy dissipation basins. When the Inskip Powerhouse is in operation a buried 84-inch-diameter reinforced concrete pipe approximately 660 feet long conveys water directly from the tailrace of Inskip Powerhouse to the Coleman Canal.

3.2 Project Operation

The Battle Creek Project is operated as run-of-river using available water in excess of minimum instream flow requirements, up to the capacity of the conveyance system, for energy production. The conveyance system diverts water from the North and South Forks of Battle Creek, and several tributaries and springs through a web of interconnected natural and artificial waterways (see *Figure 3*). South Diversion Dam, located 6.2 miles upstream from South Powerhouse, is not operational and no water is diverted from SFBC into South Canal. Therefore, flow conditions in SFBC are unimpaired from the headwaters to South Powerhouse. In addition to SFBC flows, South Powerhouse releases NFBC water into SFBC and has a maximum flow capacity through the powerhouse of 190 cfs. Combined NFBC and SFBC water then flow towards the Inskip Diversion Dam.

As the Inskip Dam inlet is currently closed (see below), flows pass Inskip Dam until reaching Coleman Diversion Dam where it is diverted for power generation. Interim Flow Agreements,[9] which have been in place since 1998, specify a minimum instream flow objective of 30 cfs (±5 cfs) for SFBC and NFBC. Article 33 of the project license prescribes minimum instream flows of 5 cfs in SFBC and was revised August 25, 2009, and incorporated the flows prescribed in the Interim Flow Agreements.

The Inskip Development is currently offline and there are no plans to bring it back online in the future. Offline components include the inlet into Inskip Canal from Inskip Diversion Dam, the diversion from Lower Ripley Creek Feeder Dam into Inskip Canal, the diversion from Eagle Canyon Canal Dam into Inskip Canal, the Inskip Powerhouse Penstock and the Inskip Powerhouse. The Inskip Powerhouse Tailrace Connector, connecting the Inskip tailrace to the Colman Canal is currently not in operation.

3.3 Proposed Action

The proposed action includes the complete removal of Inskip Diversion Dam, adjacent infrastructure, fish ladder, and approximately 30,000 to 56,000 cubic yards of sediment from behind the dam. The inlet into Inskip Canal from Inskip Diversion Dam would be plugged. The features mentioned above that are currently offline would not be brought back online in the future.

Inskip Powerhouse Tailrace Connector is currently not in operation. No changes to long-term operations of the Battle Creek Project are proposed with this action; however, South Powerhouse would be temporarily offline for the duration of construction.

The area potentially affected by the proposed action includes five laydown areas and access roads. The proposed primary work area (approximately 5.6 acres) includes approximately 1,500 linear feet of SFBC extending from just downstream of Inskip Diversion Dam to South Powerhouse (Figure 2). The South Powerhouse tailrace joins SFBC within the primary work area approximately 700 linear feet upstream of the dam. Adjacent to South Powerhouse approximately 1,000 linear feet upstream of the dam is an existing concrete ford stream crossing that spans the channel. Laydown Area 1 (approximately 0.5 acres) would include parking, equipment staging, and material and plant storage (Figure 2). Laydown areas 2, 3, 4, and 5 (approximately 1.75 acres, 2.5 acres, 0.85 acres, and 1 acre, respectively) would include the temporary storage of spoils, a hauling transfer location in Laydown Area 3, and equipment staging. All laydown

[9]Multiple agreements were established all titled "Agreement by the United States to Pay Pacific Gas and Electric Company for Reducing Diversions from Battle Creek to the Battle Creek Project" and are collectively known as Interim Flow Agreements.

areas are either presently disturbed or have been recently used for parking and equipment staging.

Diversions into Cross Country Canal from NFBC at North Battle Creek Feeder Diversion Dam and Volta #2 Powerhouse may be temporarily reduced. Minimum instream flows of 30 cfs (±5 cfs) for SFBC and NFBC would be maintained during and after construction of the proposed action for preservation of anadromous fish habitat. Natural, unimpaired flow from SFBC would be temporarily diverted around the primary work area. A portion of the SFBC stream channel within the primary work area would be temporarily dewatered, and upstream of Inskip Diversion Dam would be dredged.

PG&E would keep the radial gates at Coleman Diversion Dam closed to continuously block passage for anadromous fish species. The nearby Coleman canal tunnel would be plugged with native, on-site materials and abandoned in place. Once stored sediment is dredged and the Inskip dam is removed, the stream channel would be restored to a natural condition. Restoration of the channel is proposed upstream of the existing dam and would be designed to include a series of pools and riffles/steps/cascades to provide channel bed stability. Bank stabilization and revegetation would be implemented within the primary work area to ensure long-term stability of the restored stream banks. Soil stabilization matting, live stakes, tubelings, or bare root planting would be used depending on the need and time of year. A gabion retaining wall may be constructed using angular rock per the manufacturer's instructions on the left abutment upstream of the dam to retain a portion of the slope where the stream restoration work may encroach on an existing access road.

Once complete, water originating in the SFBC watershed would continue to remain in SFBC past South Fork diversion dam and receive inputs from South Powerhouse tailrace. The combine flows would continue through the area once occupied by the Inskip Diversion dam (proposed restored stream channel) to the Coleman Diversion dam.

3.4 Proposed Environmental Measures

The licensee is proposing the following protection, mitigation, and enhancement measures:

- While restoration work is conducted within the SFBC stream channel, all streamflow would be diverted around the primary work to minimize fine sediment mobilization and downstream turbidity;
- Bank stabilization/revegetation would be implemented to ensure bare soil is not left exposed. Where bank soils require stabilization, coir (coconut fiber) fabric soil stabilization matting would be used, and native vegetation would be established using a combination of topsoil, seeding, live stakes, tubelings (young

seedling trees or bushes grown initially in tubes), or bare root plantings. Ground disturbance and vegetation removal would not exceed the minimum amount necessary to complete work at the site;

- To maintain the stability of an existing access road along the southern shore of SFBC, a gabion retaining wall may be constructed if required to maintain stability of the road. The retaining wall would support the stream-side shoulder of the access road and conform to existing roadway geometry;

- SFBC and other aquatic habitats would be protected, as necessary, with silt fences, fiber rolls, erosion control blankets, and other best management practices (BMPs) as necessary along the work area boundaries prior to the initiation of activity. BMPs would be maintained through the duration of the proposed action activities. No fill, including vegetation trimmings, debris, or runoff, would be allowed to enter SFBC or other aquatic habitats;

- Erosion control materials would be installed per manufacturing material specifications and won't contain monofilament netting;

- Off-road equipment that is not local to the action area would be cleaned to ensure that it is free of soil and plant parts;

- Following completion, all construction materials, spoils, or other debris would be removed;

- Work areas would be returned to pre-existing contours and conditions upon completion of work, to the extent reasonably feasible;

- When accessing work sites, travel and parking of vehicles would be limited to pavement, existing roads, and previously disturbed areas (except where overland travel is required);

- A water quality monitoring plan would be implemented to comply with the California Regional Water Quality Control Board (California RWQCB) Basin Plan Objectives (CVRWQCB 2018), and any permit requirements obtained for project construction;

- The licensee would develop a spill prevention and control plan in coordination with the California Water Resources Control Board (California WRCB); construction workers would receive training in order to identify contamination; contaminated soils would be disposed of in accordance with rules and regulations of the U.S. Department of Transportation, the Environmental Protection Agency

(EPA) and California Environmental Protection Agency; soils that are suspected to be contaminated would be tested at an approved certified laboratory; and fuels stored on site would be contained in an area separated from direct runoff;

- In the event of an inadvertent hazardous material spill, the licensee would notify the Coleman National Fish Hatchery immediately;
- All contractors and equipment operators would be provided Worker Environmental Awareness Program training to educate them on the environmental resources of the action area and required protection measures. Training would include information about the Endangered Species Act (ESA) and the California ESA, and the consequences on noncompliance with these acts. Workers would be informed about the presence, life history, and habitat requirements of all special-status species that may be affected in the action area. Training would include information on state and federal laws protecting nesting birds. This training would be conducted prior to construction for each year of implementation and for new staff/contractors;
- Aquatic species rescue and relocation would be implemented prior to and during dewatering activities. FWS and California Department of Fish and Wildlife (California DFW) would be consulted regarding a fish rescue for non-listed fish species. For amphibian and aquatic reptile species, rescue and relocation methodology is detailed in the application and is adapted from "Consideration for Conserving the Foothill Yellow-legged Frog" (CDFW 2018a), "Interagency Conservation Strategy for Mountain Yellow-legged Frogs in The Sierra Nevada" (Knapp 2018), and "USGS Western Pond Turtle (Emys marmorata) Visual Survey Protocol for the Southcoast Ecoregion" (USGS 2006);
- Laydown areas would be surveyed in winter or early spring prior to use. If vernal habitat is observed, the laydown area would be moved at least 50 feet from the vernal habitat such that potential effects would be completely avoided;
- The amount of time that logs, spoils, and/or debris piles are left on site and within 100 feet of aquatic habitat would be minimized. If left on site overnight, the underside of the edges of the piles would be carefully inspected for amphibians prior to loading onto vehicles;
- No vehicles or equipment (with the exception of dewatering pumps) would be refueled within 100 feet of wetlands, streams, or other waterways. Vehicles operating adjacent to wetlands and waterways would be inspected and maintained daily to prevent leaks. If equipment must be washed, washing would occur where wash water cannot flow into wetlands or waters of the U.S.;

- Stationary equipment (e.g., pumps and generators) used or stored within 100 feet of aquatic habitat would be positioned over secondary containment;
- Extreme caution would be exercised when handling and or storing chemicals (fuel, hydraulic fluid, etc.) near waterways; all applicable laws/regulations and BMPs would be abided by;
- PG&E would coordinate with resource agencies (e.g., NMFS, FWS, Reclamation, California DFW) on plans to resume diversions from NFBC to SFBC following implementation of the proposed action to avoid effects to listed species and their habitat;
- To minimize the potential spread of invasive species and pathogens such as Chytrid fungus (*Batrachochytrium dendrobatidis*), appropriate standard and currently accepted decontamination protocols would be followed. All equipment that has been in contact with water (e.g., dip nets, shoes, sock, etc.) would be decontaminated immediately after visiting a site where frogs appear to be infected or if the site has a known history of infection, when moving to a new drainage/watershed, and at the end of every field day or beginning of the next field day. Decontamination procedures include thoroughly removing all mud, vegetation and other debris from gear and soaking the equipment in a 0.01% active ingredient solution of quaternary ammonium for 5-10 minutes. All gear would then be thoroughly rinsed with tap water or water from the next site. Rinsing of equipment as well as disposal of quaternary ammonium solution would occur >200 feet from water on unvegetated, disturbed soil and where wash water cannot flow into wetlands or waters of the U.S.;
- If possible, vegetation removal would occur outside the typical avian breeding season (February 1–September 1). For activities conducted during the avian breeding season, a pre-construction nest survey would be conducted by a qualified biologist within 14 days of the start of construction and if there is a break in construction of more than 14 days. Pre-construction surveys would include areas suitable for ground-nesting birds as well as trees, shrubs, buildings, or other structures suitable for nesting within 300 feet of the Action Area. If active nests (nests containing eggs or young) are identified, a no-disturbance buffer zone would be established around the nest using flagging, fencing, and/or signage as appropriate. A biological monitor would be present during construction in the vicinity of the nests to ensure that no construction activities occur within the buffer zone until a qualified biologist has determined that the young have fledged or that construction activities within the buffer zone are not disturbing the nesting

birds. The width of the buffer zone would be determined by a qualified biologist in coordination with California DFW;

- For activities conducted during the pallid bat maternity season (May 1–July 31) when non-volant (i.e., non-flying) young may be present, a pre-construction survey for pallid bat habitat would be conducted by a qualified biologist. If suitable roosting habitat or active roosts are found in trees to be removed, tree removal would be conducted, to the extent feasible, during a period when bats are active (i.e., outside the winter torpor [November 1–March 15] and maternity seasons). A biological monitor would be present during removal of suitable roost trees, which would only occur during daytime when no precipitation is occurring, and temperatures are at least 50 degrees Fahrenheit (° F). If surveys indicate the presence of pallid bat roosts in infrastructure to be demolished or plugged (e.g., Inskip Canal intake tunnel), protection, mitigation, and enhancement (PM&E) measures would be developed by a qualified biologist in coordination with California DFW. If pallid bats are detected during construction activities, work would halt until bats vacate the site; if the bats do not vacate the site, a qualified biologist would be contacted for guidance;

- Surveys for special-status plants would be surveyed and mapped prior to construction activities in the first year in accordance with the Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed and Candidate Plants (USFWS 2000) and Protocols for Surveying and Evaluating Impacts to Special-Status Native Plant Populations and Sensitive Natural Communities (CDFW 2018b). Surveys for vascular plants and mapping would be conducted to the Manual of California Vegetation alliance level (CNPS 2021) to determine the presence and extent of vegetation communities, including sensitive natural communities and riparian and wetland habitat. Two surveys would be conducted within the action area to capture the appropriate phenological state of all special-status plants;

- Each year, prior to construction, areas with special-status plants or sensitive natural communities would be flagged or otherwise marked (e.g., staked) for avoidance, including a 10-foot buffer. If work must be conducted within the 10-foot buffer, hand tools and hand placement of materials would be used. A biological monitor would be present during construction in areas within a 10-foot buffer of special-status plants;

- If avoidance of special-status plants or sensitive natural communities is not possible, mitigation procedures (e.g., seed collection, transplantation, mitigation ratios, location, timing, monitoring) would be determined in consultation with California DFW;

- All areas where vegetation is permanently removed during construction would be re-vegetated with a combination of native seed mixtures, live stakes, tubelings, or bare root plantings appropriate for the habitat. A monitoring period of at least three years would ensure establishment of plantings and restoration of riparian habitat;
- Access roads would be watered to minimize effects associated with dust;
- The licensee has taken high-quality technical photographs and has documented the history of the construction and function of Inskip Diversion Dam. The licensee would produce a historical report with images and drawings of the diversion dam that would be made available for distribution to historical societies, researchers, and other interested parties and stakeholders for historical and educational purposes;
- Residents and other sensitive receptors in the areas affected by noise generated during construction activities would be notified of the approximate dates of construction and the potential resulting increases in noise at least two weeks before construction begins;
- Whenever practicable, noise-generating construction equipment would be turned off or left running at the lowest setting possible when not in use;
- Construction equipment would be properly outfitted and maintained to reduce noise output;
- Whenever practicable, noise-generating construction equipment would be shielded from nearby sensitive receptors by acoustic enclosures, berms, or temporary construction noise barriers;
- The frequency and duration of construction activities would be altered to reduce the level of exposure experienced by sensitive noise receptors in the vicinity of construction;
- Trucking and construction operations would be limited to the hours of 6:00 a.m. to 9:00 p.m.;
- To minimize potential effects on waters from erosion, construction would occur only during dry periods; all construction activities would cease and appropriate erosion control measures would be implemented prior to storm events; soil, silt, or other organic materials would not be placed, stockpiled, or stored where such materials could pass into surface water or surface water drainage courses during unexpected rain events; and erosion control measures would be utilized throughout all phases of operation;
- Ground disturbance and vegetation removal would not exceed the minimum amount necessary to complete work at the site. Bank stabilization/revegetation would be implemented to ensure bare soil is not left exposed;

- Prior to initiating constructions, a sign would be posted at the Ponderosa Way put-in and upstream of the Primary Work Area to warn whitewater boaters of the construction activities between South Powerhouse and Inskip Diversion Dam; and
- Oasis Springs Lodge would be notified as soon as possible and prior to construction activities of the anticipated start date, duration, and type of construction activities.

3.5 Alternatives to Proposed Action

PG&E considered and evaluated partial breaching options for removal of Inskip Diversion Dam. However, after studying this alternative, PG&E determined it did not provide the desired safety conditions for the structure and their business interests and because it would be difficult to achieve and meet their safety standards.

Since the licensee has already attempted to repair the dam and partially breaching the dam would not improve the dam's safety, nor would it provide all of the environmental benefits of complete dam removal, it was excluded from further consideration and is not analyzed in this EA.

3.6 No-Action Alternative

Under the no-action alternative, Inskip Diversion Dam would remain in place under the requirements of the existing license and the proposed environmental restoration measures would not be implemented. Inskip Diversion Dam has required several significant repairs and improvements in recent years due to incidents of storm damage. A significant scour hole was discovered at the outlet of the sluiceway near the tallest section of the dam. Other portions of the dam toe are also experiencing toe scour. PG&E has been working with the Commission's Division of Dam Safety's San Francisco Regional Office to repair the dam. Temporary repair of the erosion and scour hole were implemented in 2020; however, additional long-term structural improvements to repair erosion are still necessary. The development is not currently operating.

The no-action alternative is the baseline from which to compare the proposed action and all action alternatives that are assessed in this environmental document. Under the no-action alternative, the proposed action would not occur and the project would continue to operate under the terms and conditions of the current license but the proposed environmental measures would not occur. However, because of the existing stability and safety concerns identified, the no-action alternative is not considered a viable option.

4.0 PREFILING CONSULTATION AND PUBLIC INVOLVEMENT

4.1 Pre-filing Consultation

The draft application was submitted on January 22, 2022, to Reclamation, NMFS, California WRCB, and FWS and all these agencies provided comments. PG&E included documentation on how each of the comments were addressed in the final plan. PG&E began consultation with the Native American Heritage Commission identified Tribes on September 21, 2018, with additional notifications on June 22, 2020, and November 10, 2021, corresponding with design changes and the planned removal of the Inskip Diversion Dam. Identified Tribal groups were contacted via letter with subsequent telephone calls. On April 25, 2024, PG&E filed a letter on behalf of the Paskenta Band of Nomlaki Indians who state that they have a cultural interest and authority in the proposed action area. The Tribe requested to initiate formal consultation with the Commission. In addition, PG&E sent notifications to the Tehama County Genealogical and Historical Society, the Shasta County Historical Society, and Fort Crook Historical Society to consult regarding the effects of the undertaking on historic properties by letters dated August 23, 2019, and November 11, 2021.

PG&E is in the process of developing a memorandum of agreement between the California State Historic Preservation Officer (California SHPO) and the Commission to fulfill its Section 106 of the National Historic Preservation Act (Section 106) responsibilities to mitigate adverse effects created by the Inskip Diversion Dam removal.

4.2 Public Notice and Comments

On December 29, 2022, Commission staff issued a Notice of Application for Amendment of License, Soliciting Comments, Motions to Intervene, and Protests. Comments were required to be filed by January 30, 2023. California Water Board and NMFS filed Motions to Intervene on January 3, 2023. Motions to Intervene were also filed by Interior, U.S. Forest Service, California DFW on January 24, 2023, January 25, 2023, January 26, 2023, respectively.

In its Motion to Intervene, the California DFW requested the following conditions be added to any Commission Order on the project: (1) The stream channel be restored back to natural conditions and provide channel spanning volitional fish passage for all salmonid species. Monitor the site for successful fish passage for at least 5 years, once anadromy is reestablished, above Coleman Diversion Dam. If passage is not successful, PG&E should be required to remedy any passage problems; (2) During construction and decommissioning of the development, PG&E should avoid any downstream dewatering of redds or stranding of fish; and (3) PG&E should coordinate with California DFW for any fish rescue needed. Condition (1) requested by California DFW is outside the scope of this proceeding because Coleman Dam is not proposed for removal.

On January 27, 2023, a joint Motion to Intervene and comments were filed by American Rivers, American Whitewater, California Sportfishing Protection Alliance, California Trout, Friends of the River, Golden State Salmon Association, Institute for Fisheries Resources, Pacific Coast Federation of Fishermen's Associations, and Trout Unlimited (American Rivers et al.). American Rivers et al. want to ensure that PG&E commits to protecting the endangered species supported by the Restoration Project and restore the stream channel to a condition that meets federal and state fish passage requirements.

The Battle Creek Watershed Conservancy (BCWC) filed a Motion to Intervene and comments on January 30, 2023. The BCWC objected to the surrender proceeding being handled later and separately from the Inskip and Phase 2 amendments and recommended expeditious action if they are handled separately. The BCWC also stated it supported the concerns raised by American Rivers et al.

On January 27, 2023, Interior provided comments that also included comments from FWS and Reclamation. Interior expressed concerns regarding the cross-basin transfer of water from NFBC into SFBC, the importance of the Coleman National Fish Hatchery, the protection of redds in NFBC, post-removal streambed restoration, Inskip Canal disposition, and instream flows. It also requested that if PG&E needs to open the radial gate at Coleman Diversion Dam for any unforeseen reason, that PG&E contact the FWS, California DFW, and NMFS within 24 hours, and be prepared to complete fish rescues if anadromous fish make it into the project area.

On January 30, 2023, NMFS provided comments on the proposed action. In general, NMFS is concerned that neither the Inskip removal application nor the new Phase 2 amendment application include provisions for fish passage above Inskip Diversion Dam or measures necessary to reduce mixing of NFBC and SFBC water. NMFS requests Commission staff include requirements for PG&E to: (1) provide a copy of the Vegetation Management Plan to NMFS for their review and comment; (2) construct a channel at natural grade and shape upstream of the Inskip Diversion Dam, post facilities removal; (3) provide post-construction monitoring that should be conducted during low flow conditions, post event, for each of the three storm events (5, 15, and 25-year storm events); (4) develop an adaptive management plan that includes triggers clearly identifying when maintenance or retrofit of the structure is required and expected actions necessary to mitigate or correct project failings; (5) incorporate downstream streambed habitat restoration features, at least to the extent of Inskip Diversion dam's related facilities, to meet the recovery objectives for ESA-listed salmonids; (6) modify the proposed temporary method for canal closure; (7) provide data from the natural reach both upstream and downstream of the project to assess how much the proposed design mimics the natural reach both above and below the dam; (8) make the unused spawning

gravel available to entities conducting salmonid habitat enhancement and restoration actions in the Upper Sacramento River watershed, including Battle Creek; and (9) incorporate substantial amounts of class IV-V particle sizes into their streambed material. NMFS requests that if PG&E needs to open the radial gate at Coleman Diversion Dam for any unforeseen reason, that PG&E cease construction activities, contact NMFS, California DFW, and FWS within 24 hours, and be prepared to complete fish rescues if anadromous fish make it into the project area. Construction activities should not resume until NMFS and California DFW confirm that fish rescue and relocation activities are completed. NMFS also recommends Commission staff include a provision requiring advanced notice to Coleman National Fish Hatchery, one month prior to planned South Powerhouse outages and weekly updates on flows from the Coleman Powerhouse tailrace until the South Powerhouse comes back online.

4.3 Licensee's Response to Comments

On August 3, 2023, Commission staff issued a letter to PG&E requesting that it respond to the agencies' comments and provide additional information considering if impacts on human health or the environment would be disproportionately high and adverse for environmental justice (EJ) communities in the surrounding community. PG&E filed responses to the agencies' comments on October 2, 2023, and filed its EJ analysis on December 1, 2023.

In its response to comments, PG&E agreed to the commenter's recommendations, provided clarifying information and figures, or responded directly to the comments. The agencies' comments and the licensee's responses to those comments are addressed below under the appropriate resource section in this EA. In addition, several parties provided comments or recommendations on the surrender of the project license. The potential surrender of the project is a separate proceeding and is outside the scope of this analysis.

In response to the comments on flows at Coleman Dam, PG&E stated that in compliance with Article 33e of its license, it consults with California DFW, NMFS, FWS, and the Coleman National Fish Hatchery at least one month prior to taking South Powerhouse offline. In the event of an operating emergency that requires a change to the outage schedule, PG&E agreed to make a good faith effort to notify the agencies as soon as practical.

Other comments are addressed below in the environmental analysis section where the comment is applicable. Only comments related to these environmental issues are discussed further in this EA.

5.0 STATUTORY AND REGULATORY COMPLIANCE

This amendment for the project would be subject to numerous requirements under the Federal Power Act and other applicable statutes. The major regulatory and statutory requirements are described in Appendix A.

6.0 ENVIRONMENTAL ANALYSIS

Unless otherwise noted, the information contained in this section comes from the licensee's October 28, 2022 application for amendment of license to remove Inskip Diversion Dam. On March 8, 2024, the Water Board issued its water quality certification for the Inskip Diversion amendment. The WQC includes 27 conditions but conditions 9 through 27 are considered administrative and are not discussed further. The other conditions address: (1) project activities; (2) biological resources protection; (3) dewatering and diversion; (4) hazardous materials; (5) erosion and sediment control measures; (6) recreation; (7) restoration; and (8) reporting. The WQC conditions are included in Appendix D. Commission staff agrees that the conditions of the WQC would protect resources at the project and should be incorporated into the proposed action. These conditions are discussed in each section of the environmental analysis, where they apply.

6.1 General Description

Battle Creek is a tributary to the upper Sacramento River Basin, in central Northern California, and is situated on the volcanic slopes of Mt. Lassen in southeastern Shasta and northeastern Tehama Counties. The Sacramento River, and its tributaries, provide habitat for naturally reproducing salmonids, and access to ocean habitat.

6.2 Geology and Soils

Affected Environment

The geology of the Battle Creek watershed, located at the southern end of the Cascades, is primarily volcanic in nature. This type of terrain provides deeply incised, shaded, cool stream corridors. Its ruggedness limits the extent of human activities that typically occur around readily accessible streams.

The primary rock type at Inskip Diversion Dam is late Pliocene-age Tuscan Formation tuff breccia. The rock is very durable and exhibits few significant joints or other fractures. A 10- to 15-foot section of poorly to moderately consolidated terrace deposits overlies bedrock near the fish ladder. These deposits consist primarily of coarse gravel and cobbles, with minor sand and a few boulders. Soils in the action area are overwhelmingly Toomes series, with less areas of Guenoc and Supan series. Toomes soils are present on slopes ranging from nearly level to very steep, are well drained and

shallow to very shallow and rocky with a medium texture. Supan soils occur on rolling to steep slopes and are well drained, shallow, stony, and medium-textured over a clay subsoil. Steep rock slopes and vertical relief from 10 to more than 20 feet are present in the creek channel immediately downstream from Inskip Diversion Dam. The steep slopes along SFBC indicate rapid runoff during precipitation events, and consequently soils have a moderate to severe water erosion hazard when vegetation is not present. However, particle sizes in Toomes and Supan series soils are such that the wind erosion hazard is low.

The stream channel within the primary work area is steep and deeply incised, with large bedrock outcroppings. Side channel and mid-channel bars of cobble and boulders occur downstream of the ford stream crossing and may be shifting due to aggradation behind the Inskip Diversion Dam. Large gravel/cobble deposits exist just downstream of dam, suggesting that transport of course sediment is occurring through the primary work area. A geomorphic assessment conducted in May 2020 to inform restoration design of the proposed action found deposited sediments filling the channel upstream of the dam. The resulting sediment deposit is wedge-shaped and is thickest at the dam (approximately 30 feet in depth) and thinner in the upstream direction. Stream bed diversity consisted of 39 percent riffles and 61 percent pools, and cobble was the dominant substrate grain size observed during the study.

Environmental Effects

Construction may require the removal approximately 750 linear feet of riparian vegetation along both banks of SFBC, which could expose soils and contribute to erosion and sedimentation of SFBC. In addition, excavation may encroach on an existing access road to the left abutment of Inskip Diversion Dam, which could result in additional erosion. However, before any activities commence, during excavation, and after construction is completed, stream sediment control and bank protection measures described in *Section 3.4 Proposed Environmental Measures* would be implemented to minimize erosion. Additionally, exposed banks would be revegetated with native riparian species, which minimize long-term streambed degradation and provide channel stability. These erosion control measures are also required by condition 5 of the WQC. Therefore, with mitigation, the proposed action would only have temporary, minor erosion and sedimentation effects compared to existing conditions.

Once construction and restoration is complete, channel complexity and fluvial processes may be improved in the action area and downstream reaches of SFBC. The effect of dams on fluvial processes and sediment transport often reduce channel complexity and floodplain function. Results of the geomorphic assessment, conducted by the licensee, suggest Inskip Diversion Dam is affecting sediment transport both upstream and downstream of the dam. Removal of the dam and dredging the channel upstream of

the existing dam would restore the channel gradient to pre-dam condition and expose natural roughness elements (boulders and bedrock outcrops) that provide habitat complexity for aquatic species. Additionally, removal of the dam would improve sediment transport processes. Therefore, the restored natural channel would have a long-term benefit on channel complexity and fluvial processes compared to existing conditions.

6.3 Water Quantity

Affected Environment

Large portions of the annual water charge percolates through the underlying volcanic strata and emerges throughout SFBC as cold springs that ensure a relatively high and stable base flow throughout the year. Using USGS gauging data, Commission staff estimate that flows average 378 cfs annually. Higher flows, averaging 577 cfs, are provided by snowmelt, with flows regularly peaking at flows over 1,000 cfs. During the dry season flows average 154 cfs. As the Battle Creek Hydroelectric Project is operated in run-of-river mode, operational flows closely resemble natural base flows.

The waters of both NFBC and SFBC are regularly diverted from the natural river course (see Figure 3). SFBC water was historically diverted for power generation at South, Inskip, and Coleman diversion dams; however, South and Inskip diversion dams are no longer operational, so water now follows the natural watercourse. Approximately 50 to 80 cfs of NFBC water historically entered SFBC at South Powerhouse via the Cross Country Canal and at Inskip Powerhouse via the Eagle Canyon Diversion Dam and Canal. Both the South and Inskip Powerhouses are currently offline so that water diverted from NFBC rejoins the watershed further downstream at the Colman Powerhouse. Following the completion of construction, the licensee proposes to release water at the South Powerhouse, returning flows to the conditions of the license. The Interim Flow Agreements require the licensee to maintain SFBC instream flows of 30 cfs (±5 cfs), including the stream channel in the primary work area. The licensee anticipates these flow requirements would be maintained by natural flows in SFBC.

Environmental Effects

The licensee proposes to temporarily install bladder dams and pumps to divert all water from the SFBC from the South Powerhouse tailrace confluence to approximately 140 feet downstream of the Inskip dam, a total distance of approximately 800 feet. The temporary dewatering would allow for the deconstruction of the dam, the removal of accumulated sediments upstream of the dam, and the restoration of the natural streambed. WQC condition 3 also requires the licensee to prepare a Diversion and Dewatering Plan, prior to the start of construction.

During construction no water would flow through approximately 800 feet of SFBC. The licensee anticipates that the temporary dewatering would be during the naturally low flow period of May through September, or approximately 20 weeks. Diverted flows would rejoin SFBC and continue to meet the requirements of the license and the Interim Flow Agreements for SFBC below the work area. At the completion of construction, flows would be return to the work area of SFBC. Without the impediment of the Inskip Diversion Dam, the restored natural channel would have a long-term benefit on stream flows compared to existing conditions.

6.4 Water Quality

Affected Environment

The watersheds volcanic soils and numerous springs provide high quality, low temperature, water input to the SFBC. As summarized in 2005 EIS the overall water quality in SFBC, including the proposed action area, is good. Water quality data for the SFBC was collected below the Coleman Diversion Dam by the Water Board from 1960–1982, and at South Diversion Dam, Inskip Diversion Dam, and Coleman Diversion Dam on October 6, 1999, by Reclamation. Specific conductance, pH, turbidity, water temperature, and dissolved oxygen, as well as concentrations of nonmetals and metals, were all within the recommended limits for aquatic life identified by the EPA aquatic life criteria. Composite sediment samples collected at Coleman Diversion Dam and South Diversion Dam on October 6, 1999, contained little organic material or fine sediment at the dams or in their catch basins, suggesting that most of the fine sediment that is supplied to the creek annually is carried through the SFBC and past the diversion dams by high seasonal runoff. The sediments present were not found to be toxic for aquatic life.

Water temperatures were measured continuously in SFBC upstream of South Powerhouse and at the Inskip Diversion Dam from 1998 through 2001 by the California Department of Water Resources (2005 EIS). Monitoring occurred during the summer, roughly June 1 through September 30, and reflected a combination of upstream headwater water temperatures, tributary and spring inputs, diversions from the NFBC, and ambient air temperature. Water temperatures upstream of the South Powerhouse and at the Inskip Diversion Dam followed similar patterns each year, rising during June (average 63.6° F) to a peak in mid-summer (average 66.6° F), then slowly declining to lowest measurements at the end of the study period in September (average 60.9° F). Rapid multi-day changes to water temperatures were likely the result of weather events and changes in flow. The lower sections of SFBC are fed by fewer springs and is exposed to more direct solar radiation as it flows through a less confined and less shaded valley then the upstream reaches. However, due to the input from NFBC, through the Cross Country Canal from June through September, water temperatures in SFBC at

Inskip Diversion Dam were between 3.5° F to 7.5° F cooler than water temperatures upstream of the South Powerhouse. With the South Powerhouse now offline, these cooler waters are no longer released into the SFBC. Water temperatures at the Inskip Diversion Dam are therefore similar, but slightly higher, then those recorded at the South Powerhouse.

Environmental Effects

Proposed construction would temporarily affect water quality by increasing suspended sediments for the duration of the construction actions. Fine sediment mobilization is most likely to occur during installation and removal of the bladder dams that would be used to isolate the work area. Additionally, as water is returned to the restored channel, fine soil particles disturbed by the restoration process would be entrained in the water column. Increased turbidity and suspended sediments would adversely affect SFBC between South Powerhouse and Coleman Diversion Dam; however, the distance of sediment transport would be proportional to stream flow. Increases in sediment during low flow periods may affect a small segment of SFBC. Increases in sediment during high flow periods would distribute the increased sediment load over longer distances but would dilute the overall contribution to sediment loads resulting from the proposed action. Sediment samples from upstream of Inskip Diversion Dam demonstrated no indication of toxicity to aquatic life. The licensee would conduct water quality monitoring and respond to any changes in water quality during the construction process, as required by the WQC (condition 3 and 8). The licensee would implement BMPs, as required by the WQC (condition 1, 2, 4, and 5), to reduce sediment sources and protect water quality from accidental spills of hazardous materials used during construction. WQC condition 8 requires PG&E to file monitoring reports every 60 days once construction begins. Therefore, the construction activities associated with the proposed action would have minor and temporary effects on water quality.

Flows that bypass the construction area may change temperature based on the solar exposure of the bypass system. With the South Powerhouse offline, water temperatures would be more natural during the construction process, without the transfer of water from NFBC. Both factors would result in a minor increase in stream water temperature during the construction process. The licensee proposes to monitor water quality and temperature conditions on both ends of the bypass system and respond accordingly, should changes be detected. Best management practices, as required by WQC condition 3, allow the licensee to construct artificial shading to exposed portions of the bypass system to minimize the effects of solar gain on water temperatures. Therefore, construction would increase water temperatures but with effective monitoring and licensee response these affects would be minor and temporary.

On return to operations, the water quality within the restored channel would be similar to existing conditions. Any changes to water quality and/or stream temperature within the restored stream channel would be those associated with the currently licensed condition.

6.5 Aquatic Resources

Affected Environment

SFBC is a perennial waterway deeply embedded in volcanic soil. Rainfall percolates through the volcanic strata and emerges throughout the watershed as cold springs that ensure a relatively high and stable base flow throughout the year. Although the section SFBC near the Inskip Development could provide extensive spawning and rearing habitat for anadromous fish, the creek is isolated from the rest of the watershed by the Coleman Diversion Dam, approximately 5.5 miles downstream. Benthic macroinvertebrate data collected by the licensee shows that SFBC is biologically likely intact.[10]

Fish species known to have historically occurred in SFBC include Chinook salmon, steelhead/rainbow trout, brook trout (*Salvelinus fontinalis*), brown trout (*Salmo trutta*), Pacific lamprey (*Entosphenus tridentatus*), western brook lamprey (*Lampetra richardsoni*), riffle sculpin (*Cottus gulosus*), Sacramento sucker (*Catostomus occidentalis*), Sacramento pikeminnow (*Ptychocheilus grandis*), speckled dace (*Rhinichthys osculus*), California roach (*Hesperoleucus symmetricus*), tule perch (*Micropterus traskii*), and smallmouth bass (*Micropterus dolomieu*). Fish distribution within portions of the Battle Creek watershed show rainbow trout to be the only salmonid present in SFBC between South Diversion Dam and Inskip Diversion Dam during summer months. Rainbow trout, Sacramento sucker, California roach, Sacramento pikeminnow, and riffle sculpin were observed between Inskip Diversion Dam and Coleman Diversion Dam. Western brook lamprey were historically documented in SFBC upstream of Coleman Diversion Dam; however, the upstream range within the watershed ends approximately 5 miles downstream of, and no suitable habitat for the species is available near the proposed action.

Sacramento winter-run Chinook salmon Evolutionarily Significant Unit (ESU), Central Valley spring-run Chinook salmon ESU, and Central Valley spring-run steelhead Distinct Population Segment are not present in the proposed action area. However, critical habitat and/or essential fish habitat (EFH) for these species included the proposed action area. Additionally, Central Valley fall-/late fall-run Chinook salmon did not

[10] As determined by the California Stream Condition Index for benthic macroinvertebrates.

appear in the IPaC, or NMFS queries; however, EFH for this species exists in the proposed action area. An analysis of potential effects of the proposed action on Sacramento winter-run Chinook salmon, Central Valley spring-run Chinook salmon, Central Valley spring-run steelhead (*Oncorhynchus mykiss*), and Central Valley fall-/late fall-run Chinook salmon; critical habitat; and EFH can be found in section *6.7 Threatened and Endangered Species*.

Comments received by U.S Department of Interior (January 27, 2023), NMFS (January 30, 2023), and California DFW (January 27, 2023) expressed concerns about fish stranding during dewatering. Within the same filings these agencies, as well as the American Rivers et al. (January 27, 2023), expressed concerns about habitat reconstruction following the removal of bed material behind Inskip Dam.[11]

Environmental Effects

The proposed construction would isolate and dewater approximately 800 feet of SFBC. The licensee proposes to first install the upstream bladder, using gravity to dewater from upstream to downstream. Fish screens would be placed over pump intakes to reduce the risk of inadvertently transporting aquatic resources through the bypass system. The dewatering would happen during historically low flow periods to minimize the portion of SFBC that would be affected. The licensee proposes to implement an aquatic species rescue and relocation plan (ASRRP) immediately prior and during dewatering activities. This plan would be developed in consultation with the FWS, NMFS, and California DFW. Development of this plan in consultation with these agencies would effectively address the comments received from these agencies. WQC condition 3 also requires protection of foothill yellow-legged frogs, western pond turtles, and any fish present during implementation. If aquatic species relocation is required, the licensee must submit an annual Relocation Report to the Water Board and California DFW.

During construction, flow diversions would lead to increased turbidity below the work area. Effects of suspended sediment on aquatic species is a function of sediment concentration and the duration of exposure. The licensee proposes to implement construction BMPs and would monitor water quality above and below the work area to modify construction operations in the event of unanticipated increases in turbidity.

[11] Motion to intervene and comments by American Rivers, American Whitewater, California Sportfishing Protection Alliance, California Trout, Friends of the River, Golden State Salmon Association, Institute for Fisheries Resources, Pacific Coast Federation of Fisherman's Associations, and Trout Unlimited.

Changes in water quality created by the proposed amendment would lead to temporary, minor effects on aquatic resources downstream of the proposed work area.

WQC condition 3 requires the licensee to develop a Diversion and Dewatering Plan that includes procedures for dewatering and diverting flows, including appropriate BMPs to protect water quality and beneficial uses, including maintaining required instream flows (Condition 1). The Dewatering Plan must be developed in consultation with the Water Board, California DFW, and the Central Valley Regional Water Quality Control Board.

The licensee proposes to restore the streambed to a natural condition, above, and at, the Inskip Dam. To date, the stream restoration workplan lacks sufficient information to be fully evaluated. Commission staff recommends that the licensee, in consultation with the resource agencies, develop a plan that fully details the geophysical and biological requirements to successfully restore the stream to the proposed natural condition. This restoration plan should be made a condition of any order on this amendment proposal. The section of stream below the Inskip Dam is known to support aquatic populations and therefore, would not require restoration.

Benthic macroinvertebrates within the immediate work area would not survive dewatering. The benthic macroinvertebrate population adjacent to the work area has been shown to be robust, therefore, the work area would quickly be repopulated when flows are restored. Aquatic species relocated as part of the ASRRP would return to the rewatered work area shortly after the benthic macroinvertebrates.

The Inskip and South Developments are non-operational, however the licensee intends to reestablish cross-basin transfer of NFBC water to SFBC on completion of construction. Cross basin transfer would decrease water temperatures in SFBC, improving conditions for cold water fish. Migratory fish may be falsely attracted to SFBC with the cross-basin transfer of NFBC waters; however, this transfer of water is permitted under the current license. Under existing conditions, Inskip Diversion Dam disrupts access to potentially suitable aquatic habitat and impairs fluvial processes which are essential for aquatic resources. The proposed action would improve habitat connectivity and complexity, along with sediment and large wood transport. Therefore, the restored natural channel would have a long-term benefit on aquatic resources compared to existing conditions.

The resource agencies expressed concern that the construction period is planned when winter-run and spring-run Chinook salmon would be spawning in the NFBC. During the construction period, NFBC flows would temporarily increase between approximately 40 and 60 cfs, due to the reduction in diversion at North Battle Creek Feeder Diversion Dam while South Powerhouse is offline. This increase in flow would

make more spawning habitat available for salmon. If the South Powerhouse is brought back online shortly after construction concludes, flows in the NFBC would decrease, potentially resulting in the dewatering of redds built when flows were higher. In order to protect redds of spring-run and winter-run Chinook salmon, Interior recommends that the Commission require PG&E to delay bringing South Powerhouse online until January 15, 2024, unless PG&E receives concurrence from the FWS, NMFS, and California DFW for a different date. Based upon years of salmonid monitoring results in NFBC, NMFS biologists anticipate that all winter-run and spring-run Chinook salmon would have emerged from their redds by this date.

In response to this comment, PG&E stated that construction is scheduled to end in September 2024. If there is enough natural flow to maintain the increased flow (40 – 60 cfs) in NFBC while diverting water through South Powerhouse, PG&E agreed to consult with these agencies to obtain their concurrence prior to returning South Powerhouse back online before January 15 of the following year.

6.6 Vegetation Resources

Affected Environment

The action area includes both riparian and wetland habitats, which are shaped by primarily riverine and lacustrine processes, respectively. Botanical surveys were performed in a portion of the project area along SFBC in 2000 and 2005, and wetland delineations were performed in 2000, 2004 (2005 EIS), and 2020 (PG&E 2020). These surveys identified two riparian and wetland plant communities along SFBC: riparian wetland and live oak woodland. No riparian or wetland vegetation was documented in the surveyed laydown areas, but due to its proximity to South Forebay, Laydown Area 5 has the potential to include riparian or wetland vegetation. About 22 vegetation species that are classified as special-status by the State of California either occur or have the potential to occur in the action area.

About 1.2 acres were classified as riparian wetlands. The riparian wetlands are characterized by hydrophytic vegetation, both forested and scrub-shrub, located in thin bands immediately adjacent to the banks of SFBC (2005 EIS). This community lacks the hydric soil indicators required to meet the U.S. Army Corps of Engineers (Corps) definition of wetlands. Riparian wetland overstory vegetation species include California bay, big-leaf maple, and white alder, and understory vegetation includes California wild grape, Himalayan blackberry, and several species of willow. This community acts as an important wildlife habitat and corridor, attracting a high diversity of resident and migratory birds, mammals, amphibians, and reptiles.

Live oak woodland is the dominant riparian community along the majority of SFBC in the action area, forming a narrow band of vegetation along the north (right)

bank and a wider band along the south (left) bank that often acts as a transition between riparian wetland and upland communities (2005 EIS). The overstory of live oak woodland is predominantly canyon live oak and interior live oak but can also include other species (e.g., California bay, California buckeye) in much lower numbers. The understory is typically poorly developed or absent but can include species such as western poison oak, California melic, or Pacific sanicle.

Environmental Effects

During construction, up to approximately 750 linear feet of riparian vegetation along both banks of SFBC upstream of and surrounding Inskip Diversion Dam may be removed. This impact would be temporary, since all areas where vegetation is removed would be re-vegetated with an appropriate native species mix, as proposed by the licensee and also required by WQC condition 7. The application included a revegetation plan that outlined species ratios and quantities for affected areas. PG&E proposed a monitoring period of at least three years to ensure establishment of plantings and restoration of disturbed riparian habitat.

Riparian and wetland vegetation may be affected via changes in water availability and quality, and stream morphology. Water quality and quantity available for riparian species would be temporarily affected during construction, but the potential for water quality effects would be minimal with implementation of the proposed PM&E measures. Removal of Inskip Diversion Dam and restoration of the stream channel would result in altered stream morphology. Although these changes in physical conditions might result in slight changes in the composition and distribution of riparian vegetation, they would ultimately restore a more natural and stable stream channel that would provide suitable habitat for the native riparian species currently present in the area. Additionally, installation of rip rap on the south bank of SFBC would limit erosion and mobilization of fine sediment, thereby providing additional protection for riparian species. The proposed action would restore the area to a natural channel which would have a long-term benefit to riparian vegetation compared to existing conditions.

The Water Board in WQC condition 2 determined that the proposed action would result in temporary and permanent effects to stream channel habitat. The project would temporarily affect approximately 1.8 acres of the stream channel along SFBC and permanently affect approximately one acre of stream channel habitat. Condition 2 requires the licensee to compensate permanent effects at a minimum of a 1:1 ratio.

As described in Section *3.4 Proposed Environmental Measures*, and reiterated in WQC condition 2, all contractors and equipment operators would receive training on the presence, life history, and habitat requirements of all special-status species and sensitive natural communities that may be affected. This training would be conducted prior to

construction for each year of implementation. Surveys for special-status plants would be conducted and the area would be mapped prior to construction activities in the first year. Surveys and mapping would be comprehensive for vascular plants to determine the presence and extent of vegetation communities, including sensitive natural communities and riparian and wetland habitat. Two surveys would be conducted within the action area to capture the appropriate phenological state of all special-status plants that may occur. If found, special-status plant populations would be documented using a California Natural Diversity Database (CNDDB) form and completed forms would be submitted to CNDDB. California DFW would be provided global positioning system (GPS) coordinates and/or maps for any special-status species located during pre-construction surveys.

Prior to construction, areas with special-status plants or sensitive natural communities would be flagged or otherwise marked for avoidance, including a 10-foot buffer. If work must be conducted within the 10-foot buffer the licensee would utilize hand tools and hand placement of materials, as recommended by California DFW. A biological monitor would be present during construction in areas within a 10-foot buffer of special-status plants to ensure avoidance. If avoidance of special-status plants or sensitive natural communities is not possible, mitigation procedures (e.g., seed collection, transplantation, mitigation ratios, location, timing, monitoring) would be determined in consultation with California DFW. The location of any mitigation plantings would be recorded using GPS coordinates to enable location of the special-status plant species or sensitive natural communities after the required monitoring period is complete.

To minimize and prevent the introduction and/or spread of non-native invasive weeds all contractors and equipment operators would be educated on the non-native invasive plants in the area and required protection measures, as required by WQC condition 2. Training would include information about equipment cleaning procedures, use of weed-free materials, and proper disposal of soil and vegetation.

Off-road equipment would be cleaned prior to accessing the area, as proposed by the licensee and required by the WQC. Equipment is considered clean if a visual inspection reveals no soil, seed, or plant material is on the equipment. As much as possible, vehicles and equipment would be limited to pavement, existing roads, and previously disturbed areas. If materials for erosion control (e.g., straw wattles, gravel) are used, they would be certified weed-free and soil disturbance would be the minimal amount needed to conduct the work. If non-native invasive plant materials are removed from the project area, they would be properly contained and transported to a landfill. Commission staff concludes that the PM&E measures would minimize any long term effects to vegetation and would minimize the spread of invasive plant species.

6.7 Wildlife Resources

Affected Environment

There are nine species that are considered sensitive by the State of California that may occur in the action area based on geographic location, elevation, and suitable habitat types. These species include northern goshawk, bald eagle, western burrowing owl, American peregrine falcon, tricolored blackbird, Sierra Nevada snowshoe hare, spotted bat, and pallid bat. Only two of these nine species (bald eagle and pallid bat), have at least a moderate likelihood of occurring in the project area. The remaining species have a low probability of occurrence because of low habitat suitability and have only been documented in areas greater than five miles away from the project location.

Environmental Effects

Under existing conditions Inskip Diversion Dam may adversely affect fish populations in SFBC which are the primary food source for bald eagle. Completion of the proposed action would improve fish populations in the vicinity of the action area which would have long-term benefits to bald eagle and migratory bird populations. Inskip Canal tunnel may provide suitable habitat to pallid bats under existing conditions. The proposed action would plug the entrance to the canal tunnel and the tunnel would be abandoned in place.

Construction has the potential to affect nesting birds or roosting bats if disturbance occurs near active nests or roosts. No special-status bird species nest in the action area, but migratory birds may nest on the ground or in mature riparian or upland trees. Work activities are scheduled to occur within the typical bird nesting season (February 1–September 1) and pallid bat maternity roosting season (May 1–July 1). Direct effects to migratory bird nesting success may occur from stepping on or excavating a ground nest or removing or trimming a tree where a nest is present. Similarly, tree removal or plugging the inlet to Inskip Canal could affect pallid bat roosting habitat. Indirect effects could result from construction-related noise or vibration, which could lead to nest/roost abandonment or premature fledging.

All contractors and equipment operators would be provided Worker Environmental Awareness Program training to educate them on the environmental resources of the area and required protection measures. Training would include information about the ESA and California ESA, and the consequences of noncompliance with these acts. Workers would be informed about the presence, life history, and habitat requirements of all special-status species that may occur in the project area. Training would also include information on state and federal laws protecting nesting birds. This training would be conducted prior to construction for each year of implementation.

If possible, vegetation removal would occur outside the typical avian breeding season (February 1–September 1). For activities conducted during the avian breeding season, a pre-construction nest survey would be conducted by a qualified biologist within 14 days of the start of construction and if there is a break in construction of more than 14 days. Pre-construction surveys would include areas suitable for ground-nesting birds as well as trees, shrubs, buildings, or other structures suitable for nesting within 300 feet of the action area. If active nests (nests containing eggs or young) are identified, a no-disturbance buffer zone would be established around the nest using flagging, fencing, and/or signage as appropriate. A biological monitor would be present during construction in the vicinity of the nests to ensure that no construction activities occur within the buffer zone until a qualified biologist has determined that the young have fledged or that construction activities within the buffer zone are not disturbing the nesting birds. The width of the buffer zone would be determined by a qualified biologist in coordination with California DFW.

For activities conducted during the pallid bat maternity season (May 1–July 31) when non-volant (i.e., non-flying) young may be present, a pre-construction survey for pallid bat habitat would be conducted by a qualified biologist. If suitable roosting habitat or active roosts are found in trees to be removed, tree removal would be conducted, to the extent feasible, during a period when bats are active (i.e., outside the winter torpor [November 1–March 15] and maternity seasons). A biological monitor would be present during removal of suitable roost trees, which would only occur during daytime when no precipitation is occurring, and temperatures are at least 50°F. If surveys indicate the presence of pallid bat roosts in infrastructure to be demolished or plugged (e.g., Inskip Canal intake tunnel), PM&E measures would be developed by a qualified biologist in coordination with California DFW. If pallid bats are detected during construction activities, work would halt until bats vacate the site; if the bats do not vacate the site, a qualified biologist would be contacted for guidance.

Therefore, with implementation of the PM&E measures, the proposed action would not have significant adverse effects on wildlife. No significantly adverse, long-term effects to pallid bat would occur under the proposed action

6.8 Threatened and Endangered Species

Federally listed wildlife species that could occur in the project area include the endangered: conservancy fairy shrimp (*Branchinecta conservatio*), vernal pool tadpole shrimp (*Lepidurus packardi*), Sacramento winter-run Chinook salmon, and least Bell's vireo (*Vireo bellii pustillus*). Federally listed threatened species include: vernal pool fairy shrimp (*Branchinecta lynchi*), valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*), Central Valley spring-run Chinook salmon, Central Valley steelhead trout (*O. mykiss*), and California red-legged frog (*Rana draytonii*). The only

Federally listed plant that could occur in the area is the threatened slender Orcutt grass (*Occuttia tenuis*). Sierra Nevada red fox (*Vulpes vulpes necator*) is federally proposed for listing as endangered.

The project area does not include any vernal pool habitat which is required for all three shrimp species. The project site is also outside the range for valley elderberry longhorn beetle, least Bell's vireo, Sierra Nevada red fox, and slender Orcutt grass. Because the project site lacks suitable habitat or is outside the range of these species, Commission staff has determined that the proposed action would have no effect on these species and no additional analysis for these species is needed.

In support of its amendment request, the licensee included in its application a final Biological and Essential Fish Habitat Assessment (BA), which addresses the effects of the project on Sacramento winter-run Chinook salmon, Central Valley spring-run Chinook salmon, and Central Valley steelhead trout. The BA also evaluated the effects of the project on designated critical habitat for the Sacramento winter-run Chinook salmon and the Central Valley spring-run Chinook salmon, and pursuant to the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act), essential fish habitat (EFH) for winter-run and spring-run Chinook salmon. In addition, EFH for one non-listed ESU, Central Valley fall-/late fall-run Chinook salmon which also occurs in the action area.

Commission staff determined that the proposed action may affect, but is not likely to adversely affect, Sacramento winter-run Chinook salmon, Central Valley spring-run Chinook salmon, and Central Valley steelhead. We also concluded that the proposed action may affect, but is not likely to adversely affect, critical habitat for freshwater spawning sites, rearing sites, and migration corridors. Commission staff also concluded that the proposal for removal of Inskip Diversion Dam includes constraints that would be in place that protect beneficial resources, and there would be no effects from the proposed action to Pacific Coast salmon. Effects to Pacific Coast salmon EFH would be very short-term, localized, and minimized through the implementation of conservation measures; therefore, the proposed action may have a temporary adverse effect on EFH for Pacific Coast salmon but would not detrimentally affect EFH for Pacific Coast salmon over the long term. On January 30, 2024, Commission staff sent a letter to NMFS requesting informal section 7 and EFH consultation asking for concurrence on staff's determinations.

On March 25, 2024, NMFS concurred with our determination that the proposed action is not likely to adversely affect the NMFS ESA-listed species and/or designated habitat. In addition, NMFS concluded that the proposed action would not adversely affect EFH based on the short-term duration of construction activities, implementation of the Conservation Measures included in the BA, and may include long term benefits of

habitat restoration. NMFS concluded that consultation under Magnuson-Stevens Act is not required.

6.9 Recreation Resources

Affected Environment

Recreational uses along SFBC in the vicinity of the proposed action include whitewater kayaking, fishing, and hunting. Whitewater kayaking is known to occur along two sections of Battle Creek (2005 EIS), one from Ponderosa Way to Manton Road, which includes the primary work area, and one from Manton Road to the Coleman Fish Hatchery Diversion Dam. The Ponderosa to Manton run is an 11.5-mile stretch along SFBC beginning east of South Diversion Dam near Ponderosa Way and passing Inskip Diversion Dam, Inskip Powerhouse, and Coleman Diversion Dam to Manton Road. This section is a Class V, or expert, run with a few areas that are considered unrunnable, including the areas near Inskip and Coleman diversion dams. At these unrunnable points, kayakers leave the water and portage around the facilities. The whitewater recreation season typically runs from March (after snowmelt) through May or June.

Public access for fishing in SFBC is limited; the nearest public access point is approximately 5 miles downstream at Inskip Powerhouse. Fishing is also permitted on private land for landowners and those who purchase trespass rights for access to the land.

Oasis Springs Lodge is located adjacent to Inskip Diversion Dam and is a 3,000-acre fly-fishing lodge and dude ranch. The lodge has ten rooms and can sleep up to 18 people.[12] The lodge sells trespass rights to overnight guests, offering catch-and-release fly-fishing for rainbow trout in reaches of SFBC and surrounding waterways otherwise inaccessible to the fishing public. Guests also participate in trap shooting, game hunting, tennis, swimming, and general relaxation. Other facilities associated with the lodge include a spa, a pool, tennis courts, and nature trails. The lodge is typically open from the last Saturday in April until November 15 (2005 EIS).

Environmental Effects

The proposed action would have long-term beneficial effects to fishing and kayaking within the project vicinity because the removal of Inskip Diversion Dam and

[12] https://www.theflyshop.com/adventures/oasis-springs.html., site accessed February 29, 2024.

stream restoration upstream of the dam would return SFBC to its more natural stream channel.

During construction, temporary adverse effects would occur to whitewater boating use between the upstream extent of the primary work area downstream to Manton Road, and on private fishing activities at Oasis Springs Lodge. Whitewater boaters already portage around Inskip Diversion Dam; however, once construction is underway the portage distance would likely increase, which could temporarily adversely affect the boater experience. Additionally, flows downstream of the dam to Manton Road would be temporarily reduced to the natural unimpaired condition relative to existing conditions. Although frequency of whitewater use data is not available for this run, use levels are anticipated to be low because the run is remote, requires expert skill level, and is not run commercially. In addition, the whitewater season generally occurs during early spring and a majority of the work would occur outside of whitewater season. Therefore, potential adverse effects of the proposed action on whitewater boating would be minimal and temporary. WQC condition 6 also requires the posting of signs at recreational sites and the notification of Oasis Springs Lodge prior to the start of construction.

Recreational activities at Oasis Springs Lodge would also be disturbed or disrupted by construction activities. Increased vehicular traffic, increased noise levels, the visual effects, and increased dust levels would directly affect recreational use of the lodge. Although the effects would be temporary, they could potentially affect an entire recreation season at the resort. Fishing activities would be disturbed when water flow is diverted around the primary work area; however, private fishing access both upstream and downstream of the construction area would remain available.

Prior to initiating constructions, a sign would be posted at the Ponderosa Way put-in and upstream of the primary work area to warn whitewater boaters of the construction activities between South Powerhouse and Inskip Diversion Dam. Oasis Springs Lodge would be notified as soon as possible and prior to construction activities of the anticipated start date, duration, and type of construction activities.

Therefore, potential adverse effects of the proposed action to fishing activities at Oasis Springs Lodge would be moderate but temporary. No adverse effects to hunting activities would occur.

6.10 Cultural and Historic Resources

Affected Environment

The initial determination of eligibility for the Inskip Diversion Dams listing to the National Register of Historic Places (National Register) was conducted in 2000 by Reclamation as part of the Battle Creek Salmon and Steelhead Restoration Project. A

Cultural Resource Inventory and Evaluation report was prepared that included modifications to six diversion dams. Reclamation found that the Battle Creek Hydroelectric System (consisting of the diversion dams and other water conveyance features of the Hydroelectric Project, including Inskip Diversion Dam) was not eligible for listing in the National Register as contributing to a historic landscape or as a historic district because of the removal and replacement of all the original powerhouses of the system that resulted in a substantial loss of integrity. The evaluation did, however, find some individual components of the hydroelectric system eligible, including the Inskip Diversion Dam, which it found eligible under National Register Criteria A (associated with events that have made a significant contribution to the broad patterns of our history) and Criteria B (associated with the lives of significant persons in or past). The California SHPO concurred with the Reclamation determination on December 20, 2000.

A significant storm event that occurred on December 9, 2014, caused very high flows in SFBC and resulted in significant damage to Inskip Diversion Dam. The high flows and heavy debris load in the creek during this event caused severe erosion to the stream bank upstream of and around the left abutment of the dam. Subsequent inspections also identified erosion at the toe of the dam, loss of stone mortar along the face of the dam, and large voids and undercutting of the rocks in the streambed immediately downstream of the dam. In 2015, PG&E had a Finding of Effects (FOE) analysis prepared to address the proposed repair efforts. The FOE determined that the proposed repair work would not result in adverse effects to the historic property. On November 5, 2015, the Corps, who acted as the lead federal agency for the repair work, agreed with the FOE determination and California SHPO concurred. In 2016, Reclamation determined and California SHPO concurred that Inskip Canal does not meet the criteria for eligibility for listing in the National Register.

Subsequent inspections found that the dam had developed erosional voids and toe buttress erosion that needed additional repairs. In 2018, PG&E again had an FOE prepared to address additional cladding and the toe buttress repairs to the diversion dam. California SHPO concurred with the determination that the additional repair work, carried out in 2020, would not result in adverse effects to any historic properties within the repair project Area of Potential Effects (APE). Archaeological studies conducted in 2015 and 2018 (Far Western 2015, 2018) completed the Section 106 process and the California SHPO concurred on July 24, 2019, with the 2018 FOE that the proposed repair work would not result in adverse effect to a historic property.

In preparation for PG&E's proposal to completely remove Inskip Diversion Dam, Section 106 studies were again completed. To this end, on April 8, 2021, another FOE analysis report was finalized to document the finding and seek concurrence from California SHPO that the proposed removal of the dam would result in an adverse effect

to the historic property. The analysis concluded that the destruction and removal of Inskip Diversion Dam would result in an adverse effect to the historic property following the guidelines in Section 106, 36 CFR 800.11. This finding assesses effects of the project on Inskip Diversion Dam, which is individually eligible for listing in the National Register.

Environmental Effects

An effect to historical and archaeological resources is defined as the "alteration to the characteristics of a historic property qualifying it for inclusion in or eligibility for the National Register" (36 CFR Part 800). An adverse effect occurs "when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association" (36 FR 800.5(a)). 36 CFR Part 800.5 (2)(i) includes "physical destruction or damage to all or part of the property" as an example of an adverse effect.

The proposed action to demolish Inskip Diversion Dam and Inskip Canal headworks is a direct adverse effect to Inskip Diversion Dam under 36 CFR 800.5(a)(2)(i). Demolition would result in physical destruction of the property and its complete loss. Because the dam is not a contributor to any historic district, the proposed action would not adversely affect any other historic properties, nor would the dam removal project affect other historic properties and other cultural resources based on the suite archaeological inventories from 2015 to 2021 and outreach efforts to Tribal groups and historical historic societies during this time frame.

In a letter dated July 29, 2021, the Commission designated PG&E as the Commission's non-federal representative for the purposes of consultation pursuant to section 106 of the NHPA. California SHPO concurred with the determination of adverse effects to Inskip Diversion Dam in a letter filed August 8, 2021. To date, PG&E has also consulted with the Tehama County Genealogical and Historical Society, Shasta County Historic Society, and Fort Crook Historic Society regarding built environment historic properties pursuant to 36 C.F.R. 800.5(a)(2)(i). PG&E provided an original notice to interested parties on August 23, 2019, and updated the notice on November 11, 2021, to reflect the adverse effect finding. PG&E did not receive any responses from the letters issued to the interested parties. On January 25, 2023, PG&E notified the Advisory Council on Historic Preservation (Advisory Council) of the adverse effect determination, and invite Advisory Council's participation. PG&E received no response from the Advisory Council.

Area of Potential Effect

Pursuant to section 106 of the National Historic Preservation Act (NHPA), the Commission must take into account whether any historic property could be affected by the issuance of a license within a project's APE. The APE is determined in consultation with the California SHPO and is defined as the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist.[13]

For the Inskip Diversion Dam Removal Project, the APE is all lands surrounding existing licensed project facilities and other lands where cultural resources may be affected by project-related activities that would be conducted in accordance with any license. Specifically, the APE includes lands enclosed by the project boundary as well as those areas within the construction area including the Inskip Canal headworks.

Tribal Consultation

PG&E, on behalf of the Commission, consulted per 36 CFR § 800.2, via letter and telephone, with the Estom Yumeka Maidu Tribe of the Enterprise Rancheria, Greenville Rancheria of Maidu Indians, Mechoopda Indian Tribe, Mooretown Rancheria of Maidu Indians, Nor-Rel-Muk Nation, Paskenta Band of Nomlaki Indians, Pit River Tribe of California, Redding Rancheria, Shasta Indian Nation, Shasta Nation, Winnemem Wintu Tribe, and Wintu Tribe of Northern California regarding the results of archaeological inventory and archival research conducted for the undertaking. Consultation was initiated on September 21, 2018, with additional notifications on June 22, 2020, and November 10, 2021, corresponding with design changes. This consultation did not result in the identification of potential historic properties within the APE.

On April 25, 2024 PG&E filed a letter on behalf of the Paskenta Band of Nomlaki Indians who state that they have a cultural interest and authority in the proposed action area. On May 9, 2024, Commission staff reached out to the Paskenta Band of Nomlaki Indians and stated it received the letter dated March 18, 2024 requesting a meeting with the lead federal agency regarding the proposed amendment for the Battle Creek Hydroelectric Project. The Commission plans to meet with the Paskenta Band of Nomlaki Indians on May 30, 2024. No other specific comments from the consulted Tribes were received.

Memorandum of Agreement

To meet the requirements of section 106 of the NHPA, we intend to execute a Memorandum of Agreement (MOA) with the California SHPO for the protection of

[13] 36 C.F.R. 800.16(d).

historic properties from the removal of Inskip Diversion Dam. On September 23, 2022, PG&E provided the California SHPO a draft version of the MOA for review and comment. On August 3, 2023, the California SHPO provided comments regarding the draft MOA. Thereafter, Commission staff provided PG&E with informal comments on the draft MOA. After incorporating edits and addressing comments from Commission staff, PG&E filed the draft MOA with Commission on November 29, 2023. A draft MOA was issued for review and comment on February 6, 2024. To date, no comments have been filed in response to the MOA.

6.11 Land Use and Aesthetic Resources

Affected Environment

The proposed action area is located on SFBC in Tehama County, west of Mount Lassen, southeast of Manton, and north of Paynes Creek and Highway 36. The major urban area of Tehama County is Red Bluff. Tehama County is classified as rural. Rural areas account for 64 percent of the county's population, and the remaining 36 percent of the population that lives in incorporated areas live in cities with populations of less than 20,000. The principal land uses in Tehama County outside of incorporated areas include timber and agriculture, with 24 percent of the county devoted to commercial forestland. Agriculture represents a major portion of the county's economic base, with approximately 950,800 acres of agricultural (including grazing) land located within the county.

Land within and surrounding the project area is privately owned agriculture and grazing land. Historically, some landowners have protected these upland areas from human disturbance by limiting access and by focusing land management on areas away from the water. However, other landowners have begun to supplement their incomes from agriculture and cattle ranching with the sale of trespass rights for hunting and fishing to allow the public access for these activities.

Aesthetically, the project is located on the western volcanic slopes of Mt. Lassen in northeastern Tehama County. This landscape is generally characterized by enclosed landscapes, where creek drainages are deeply incised, and steep slopes surround the area. The steep topography limits panoramic or distant views, while surrounding ridgelines restrict views within any particular drainage to views of that drainage. The primary work area cannot be seen from either Highway 36 or Manton Road, which are the primary and secondary routes into Lassen Volcanic National Park.

The construction area could be visible to those recreating along SFBC for hunting and fishing; however, because these receptors are not location-specific, the visibility of the area cannot be determined. Visitors to the Oasis Springs Lodge, a 3,000-acre fly-fishing lodge and dude ranch located adjacent to the diversion dam, would have direct

views of proposed activities. The area would also be visible to kayakers, who must portage around Inskip Diversion Dam.

The primary work area is very remote and not heavily populated with either residences or other noise-sensitive receptors. The Oasis Springs Lodge is the largest noise-sensitive receptor in the vicinity. Additional noise-sensitive receptors include residences located along Manton School Road, the primary access road to the Inskip Diversion Dam. Public access to the action area is limited by the remote nature of the area and the rough terrain of the access roads. Noise levels in this type of remote area are typically in the range of 25 to 45 A-weighted decibel (dBA).

Manton School Road is the primary haul route into the site. The estimated 1-hour average sound level at 50 feet for trucks traveling at 25 miles per hour would be 58 dBA (based on the Federal Highway Administration [FHWA] traffic noise prediction model FHWA-RD-77-108). Tehama County has not adopted noise ordinances for construction-related activities.

Environmental Effects

The proposed action would have limited visibility to the public. The steep topography, heavy vegetation, and remote location would restrict visibility of the dewatering, dredging, and dam removal to the residents and visitors of Oasis Springs Lodge and river recreationists (e.g., kayakers and anglers) on SFBC. The potential effect to visual resources would be temporary, as removal of Inskip Diversion Dam and restoration of the stream channel would ultimately improve aesthetics of the river and disturbed areas would be revegetated with native plants. The proposed action would have temporary adverse effect with long-term benefits to visual resources.

The proposed action would cause short-term adverse effects to noise-sensitive receptors in the vicinity. The loudest construction equipment (trucks, bulldozers, and scrapers/graders) have noise levels ranging from 76–85 dBA (Lmax) (FHWA 2017). Noise from construction activity typically drops off at a rate of 6 dB per doubling of distance, so instantaneous construction noise levels at the Oasis Springs Lodge, located approximately 200 feet from the construction boundary at the Inskip Diversion Dam, could reach 76 dBA if the two loudest pieces of equipment were running simultaneously. However, given typical construction equipment usage rates (FHWA 2017), daytime equivalent noise levels (Leq) for each piece of equipment would generally range from 60–69 dBA at 200 feet. Noise-sensitive receptors along access roads, including residences along Manton School Road, would be exposed to construction-related truck noises during the hauling of materials to and from the worksite. Noise-generating construction activities would be limited to the hours between 6:00 a.m. and 9 p.m. The

specifications require that noise not exceed 70 dBA (L10) (not exceed 70 dBA more than 10% of the time) during daylight hours and 50 dBA (L10) during nighttime hours.

Residents and other sensitive receptors in the areas affected by noise generated during construction activities would be notified of the approximate dates of construction and the potential resulting increases in noise at least two weeks before construction begins. Noise-generating construction equipment would be turned off or left running at the lowest setting possible when not in use. Whenever practicable, noise-generating construction equipment would be shielded from nearby sensitive receptors by acoustic enclosures, berms, or temporary construction noise barriers. Ground disturbance and vegetation removal won't exceed the minimum amount necessary to complete work at the site. Bank stabilization and revegetation with native plants would be implemented to ensure bare soil is not left exposed.

Because of the site's remote location, the proposed action would not cause significant adverse noise effects on the surrounding area. However, construction noise would be more noticeable around the Oasis lodge and those homes located along the main access road. However, these effects would be short-term. The proposed action would have no effect on land use in the project area.

6.12 Environmental Justice

Introduction

According to the EPA, "environmental justice is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies." Fair treatment means that no group of people should bear a disproportionate share of the negative environmental consequences resulting from industrial, governmental, and commercial operations or policies (EPA, 2022). Meaningful involvement means:

1) people have an opportunity to participate in decisions about activities that may affect their environment and/or health;
2) the public's contributions can influence the regulatory agency's decision;
3) community concerns will be considered in the decision-making process; and
4) decision makers will seek out and facilitate the involvement of those potentially affected (EPA, 2022).

In conducting NEPA reviews of proposed actions at hydropower projects, the Commission follows the instruction of Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which directs federal agencies to identify and address "disproportionately high and

adverse human health or environmental effects" of their actions on minority and low-income populations (i.e., environmental justice communities).[14] Executive Order 14008, Tackling the Climate Crisis at Home and Abroad, also directs agencies to develop "programs, policies, and activities to address the disproportionately high and adverse human health, environmental, climate-related and other cumulative effects on disadvantaged communities, as well as the accompanying economic challenges of such impacts." The term "environmental justice community" includes disadvantaged communities that have been historically marginalized and overburdened by pollution.[15]

Commission staff used the Federal Interagency Working Group on Environmental Justice & NEPA Committee's publication, *Promising Practices for EJ Methodologies in NEPA Reviews* (Promising Practices) (EPA, 2016), which provides methodologies for conducting environmental justice analyses throughout the NEPA process for this proposed action. Commission staff's use of these methodologies is described throughout this section.

Commission staff used EJScreen, EPA's environmental justice mapping and screening tool, as an initial step to gather information regarding minority and/or low-income populations; potential environmental quality issues; environmental and demographic indicators; and other important factors. EPA recommends that screening tools, such as EJScreen, be used for a "screening-level" look and a useful first step in understanding or highlighting locations that may require further review.

Meaningful Engagement and Public Involvement

The Council on Environmental Quality's (CEQ) *Environmental Justice Guidance Under the National Environmental Policy Act (CEQ Environmental Justice Guidance)* [16] and *Promising Practices* recommend that federal agencies provide opportunities for effective community participation in the NEPA decision-making process by: identifying potential effects and mitigation measures in consultation with affected communities; improving accessibility of public meetings, crucial documents, and notices; and using adaptive approaches to potential barriers to effective participation. In addition, Executive Order 13985 and Executive Order 14096, strongly encourage independent agencies to

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[14] Exec. Order No. 12,898,59 Fed. Reg. 7629, at 7629, 7632 (Feb 11, 1994.)

[15] *Id*.

[16] CEQ, *Environmental Justice: Guidance Under the National Environmental Policy Act*, 4 (Dec. 1997) (CEQ's Environmental Justice Guidance), https://www.energy.gov/sites/default/files/nepapub/nepa_documents/RedDont/GCEQ-EJGuidance.pdf .

"consult with members of communities that have been historically underrepresented in the Federal Government and underserved by, or subject to discrimination in, federal policies and programs,"[17] and "provide opportunities for the meaningful engagement of persons and communities with environmental justice concerns who are potentially affected by Federal activities."[18]

As discussed in section 4.0 *Prefiling Consultation and Public Involvement* of this EA, there have been opportunities for public involvement during the Commission's environmental review process, although the record does not demonstrate that these opportunities were targeted at engaging environmental justice communities. The Commission's communication and involvement with the surrounding communities began when a Notice of Application for Amendment of License, Soliciting Comments, Motions to Intervene, and Protests was issued on December 29, 2022, which established a 30-day comment period and intervention deadline. No comments regarding environmental justice concerns were filed during either notice period.

All documents that form the administrative record for these proceedings, with the exception of privileged or critical energy infrastructure information, are available to the public electronically through the internet on FERC's the Commission's website (www.ferc.gov). Anyone may comment to FERC the Commission about the proceeding, either in writing or electronically. Commission staff has consistently emphasized with the public that all comments receive equal weight by Commission staff for consideration in the EA.

Regarding future engagement and involvement, in 2021, the Commission established the Office of Public Participation (OPP) to support meaningful public engagement and participation in Commission proceedings. OPP provides members of the public, including environmental justice communities, landowners, Tribal citizens, and consumer advocates, with assistance in Commission proceedings – including navigating Commission processes and activities relating to the proposed action. For assistance with interventions, comments, requests for rehearing, or other filings, and for information about any applicable deadlines for such filings, members of the public are encouraged to contact OPP directly at 202-502-6592 or OPP@ferc.gov for further information. OPP staff can help the public more fully participate in Commission proceedings generally but does not act in a decisional capacity on the merits of any particular case.

[17] Exec. Order No. 13985, 86 Fed. Reg. at 7009 (Jan. 20, 2021).

[18] Exec. Order No. 14096, 88, Fed. Reg. 25254 (Apr. 21, 2023).

Identification of Environmental Justice Communities

According to CEQ's *Environmental Justice Guidance* and *Promising Practices*, minority populations are those groups that include: American Indian or Alaskan Native; Asian or Pacific Islander; Black, not of Hispanic origin; or Hispanic. Following the recommendations set forth in *Promising Practices*, the Commission uses the **50 percent** and the **meaningfully greater analysis** methods to identify minority populations. Using this methodology, minority populations exist when either: (a) the aggregate minority population of the block groups in the affected area exceeds 50 percent; or (b) the aggregate minority population in the block group affected is 10 percent higher than the aggregate minority population percentage in the county. The aforementioned guidance also directs low-income populations to be identified based on the annual statistical poverty thresholds from the U.S. Census Bureau. Using *Promising Practices'* **low-income threshold criteria** method, low-income populations are identified as census block groups where the percentage of low-income population in the identified block group is equal to or greater than that of the county. Here, Commission staff selected Shasta and Tehama counties, California, in which the proposed action is located, as the comparable reference community to ensure that affected environmental justice communities are properly identified.

According to the current U.S. Census Bureau information, minority and low-income populations exist within the proposed action area, as discussed further below. Table 1 below identifies the minority populations (by race and ethnicity) and low-income populations within Shasta and Tehama counties, the counties affected by the proposed action amendment proposal, and U.S. census block groups[19] within vicinity of the proposed action project site. For this project proposed action, staff chose a 1-mile radius around areas affected by the amendment (i.e., proposed project action area). Commission staff found that a 1-mile radius is the appropriate unit of geographic analysis given the limited scope of the proposed amendment action and concentration of project-related effects near the proposed action area.[20] For this project proposed action we used U.S.

[19] U.S. Census block groups are statistical divisions of census tracts that generally contain between 600 and 3,000 people. U.S. Census Bureau. 2022. Glossary: Block Group. Available online at: https://www.census.gov/programs-surveys/geography/about/glossary.html#par_textimage_4 (October 19, 2022).

[20] Removal of the dam, and ancillary structures, will require the use of standard construction equipment with noise levels detailed in section 6.11.

Census American Community Survey File #B03002 for the race and ethnicity data and Survey File #B17017 for poverty data at the census block group level.[21]

Commission staff found that a single census block group within the geographic scope of the proposed action area meet the definition of an environmental justice community (Table 1). This block group has a low-income population equal to or greater than the respective county (Census Tract 000100, Block Group 1). This block group meets the criteria for inclusion as minority populations. Figure 1 provides a geographic representation of these communities relative to the area affected by the proposed action.

Effects

Promising Practices provides methodologies for evaluating environmental justice effects related to human health or environmental hazards; the natural physical environment; and associated social, economic, and cultural factors. Consistent with *Promising Practices*, Executive Order 12898, and Executive Order 14096, we reviewed the proposed action to determine if resulting effects would be disproportionate and adverse on minority and low-income populations and whether effects would be significant.[22] *Promising Practices* provides that agencies can consider any of a number of conditions in this determination and the presence of any of these factors could indicate a potential disproportionate and adverse effect. For this proposed action, a disproportionate and adverse effect on an environmental justice community means the adverse effect is predominantly borne by such population. Relevant considerations include the location and the natural physical environment of Project facilities and the proposed action's human health and environmental effects, including associated social, economic, or cultural direct, indirect, and cumulative effects, on identified environmental justice communities.

As described in section 3.0 *Proposed Action*, the licensee proposes the complete removal of Inskip Diversion Dam, adjacent infrastructure, fish ladder, and approximately

[21] U.S. Census Bureau, American Community Survey 2021 ACS 5-Year Estimates Detailed Tables, File #B17017, *Poverty Status in the Past 12 Months by Household Type by Age of Householder*, https://data.census.gov/cedsci/table?q=B17017 (Sept. 13, 2023); File #B03002 *Hispanic or Latino Origin by Race*, https://data.census.gov/cedsci/table?q=b03002 (Sept. 13, 2023).

[22] See *Promising Practices* at 33 (stating that "an agency may determine that impacts are disproportionately high and adverse, but not significant within the meaning of NEPA" and in other circumstances "an agency may determine that an impact is both disproportionately high and adverse and significant within the meaning of NEPA"); *see also Promising Practices* at 45-46 (explaining that there are various approaches to

30,000 to 56,000 cubic yards of sediment from behind the dam. Further the licensee proposes to restore the streambed for the SFBC streambed for approximately 800-feet. The area potentially affected by the proposed action includes five laydown areas, and access roads. The proposed primary work Area (approximately 5.6 acres) includes approximately 1,500 linear feet of SFBC extending from just downstream of Inskip Diversion Dam upstream to South Powerhouse (see Figure 2).

Deconstruction and restoration activities would take place between May through September, or approximately 20 weeks. The primary work area is sparsely populated and is within Census Tract 000100, Block Group 1, a part Tehama County, south of the Manton Census Designated Place. The Inskip Diversion Dam is approximately 265 feet from the nearest business (Oasis Springs Lodge) and approximately 1.35 miles from the nearest residence. No entity provided comments or recommendations regarding the effects of the proposed amendment on environmental justice communities in response to the Commission's December 29, 2022 public notice.

Potential effects on the natural and human environment are identified and discussed throughout this document. Factors that would affect environmental justice communities include recreation resources (section 6.9), and land use and aesthetic resources (section 6.11). Potential effects are addressed in greater detail in the associated sections of this EA. Potential effects on environmental justice communities are not present for other resource areas such as geology and soils, water quantity, water quantity, aquatic resources, vegetation resources, wildlife resources, threatened and endangered species, and cultural resources.

Recreational Resources

As discussed in section 6.9 *Recreation Resources*, the proposed construction activities would not permit whitewater boating or fishing access as approximately 800 feet of stream would be dewatered for the construction process. Public access to this section of SFBC is limited, with few roadways and parking areas within walking distance to the creek. Construction would be temporary and last for approximately 20 weeks. Recreation opportunities above and below the dewatered section would remain undisturbed. Therefore, during construction activities, the effects to identified environmental justice communities would not be significant, as effects would be temporary and minor.

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determining whether an impact will cause a disproportionately high and adverse impact). We recognize that CEQ and EPA are in the process of updating their guidance regarding environmental justice and we will review and incorporate that anticipated guidance in our future analysis, as appropriate.

When construction is complete the proposed action would have long-term beneficial effects to fishing and whitewater boating within the project vicinity because the removal of Inskip Diversion Dam and stream restoration upstream of the dam would return SFBC to a more natural stream channel.

Land Use and Aesthetic Resources

As discussed in section 6.11 Land Use and Aesthetic Resources, the proposed construction activities would have limited visibility to the public but would cause short-term adverse effects to noise-sensitive receptors in the vicinity. Because of the site's remote location, the proposed action would not cause significant adverse noise effects on the surrounding area. However, construction noise would be more noticeable around the Oasis lodge and those homes located along the main access road. However, these impacts would be short-term. The proposed action would have no effect on land use in the project area. On completion of the restoration process the aesthetic environment would be more natural.

Determination of Disproportionately High and Adverse Impacts on Environmental Justice Communities

Based on the above findings regarding recreation resources and land use, as well as aesthetic effects, Commission staff concludes that any adverse effects of the proposed action to members of environmental justice communities, residing nearby or visiting the area, would be temporary and not significant. Additionally, in consideration of the included census data, and the limited and temporary scope of construction activities, Commission staff conclude that this amendment would not result in disproportionate and adverse effects on environmental justice communities.

6.13 Air Quality and Climate Change

Affected Environment

Air Quality

Air quality is considered good in the vicinity of Inskip Diversion Dam based on the Air Quality Index (AQI), as measured at California Air Resources Board's monitoring station in Red Bluff, California, approximately 30 miles from the project.[23] EPA has set National Ambient Air Quality Standards (NAAQS) for six common air pollutants including carbon monoxide, lead, nitrogen dioxide, ozone, particle pollution

[23] https://www.iqair.com/us/usa/california/red-bluff/red-bluff-walnut-office. Accessed April 2024.

(PM2.5 and PM10), and sulfur dioxide.[24] The California Air Resource Board reports that the PM2.5, PM10, and ozone are all good in the project vicinity. Commission staff have identified no areas at risk of nonattainment, i.e., not meeting national air quality standards, in the project area.

Greenhouse Gases and Climate Change

The term "greenhouse gases" (GHGs) refers to certain gases and aerosols that occur in the atmosphere both naturally and because of human activities, such as the burning of fossil fuels. GHGs are non-toxic and non-hazardous at normal ambient concentrations; however, they were identified as pollutants by the EPA because the agency determined that the current and projected concentrations of these gases in the atmosphere threaten the public health and welfare of current and future generations through climate change. There are six long-lived and directly emitted GHGs: carbon dioxide (CO_2), methane (CH_4), nitrous oxides (NO_x), hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. Of these, CO_2, CH_4, and NO_x would have been emitted during project construction due to the burning of fossil fuels for operation of construction equipment. There are no NAAQS or other significance thresholds for GHGs.

The most recent report on California's greenhouse gas emissions (CARB, 2023), indicates that in 2021, emissions from GHG emitting activities statewide were 381.3 million metric tons of carbon dioxide equivalent (MMTCO2e). This is 12.6 MMTCO2e (3.4%) higher than 2020 (368.7 MMTCO2e), but 23.1 MMTCO2e (5.7%) lower than 2019 levels (404.4 MMTCO2e). Both the 2019 to 2020 decrease and the 2020 to 2021 increase in emissions were likely due in large part to the impacts of the COVID-19 pandemic that were felt globally. Emissions levels in 2020 were anomalous to the long-term trend, and the one-year increase from 2020 to 2021 should be considered in the broader context of the pandemic and subsequent economic recovery that took place over 2021. The transportation sector showed the largest increase in emissions of 10.0 MMTCO2e (7.4%) compared to 2020. This increase was most likely from passenger vehicles whose activity and emissions rebounded after COVID-19 shelter-in-place orders were lifted. Overall, transportation sector emissions in 2021 remained 16.6 MMTCO2e (10.2%) below pre-pandemic (2019) levels. The electricity sector emissions increased by 2.8 MMTCO2e (4.8%) from 2020 to 2021. Total electricity generation increased by 4.7 Terawhatt hours (TWh) (1.5%) while the carbon intensity of generation increased by 3.2%. Hydropower generation decreased by 13.5 TWh (24.3%) given ongoing drought conditions. This was largely compensated for by a 11.4 TWh (15.3%) increase in solar and wind generation incentivized by California's clean energy policies. Fossil gas-

[24] https://www.epa.gov/criteria-air-pollutants. Accessed March 2024.

powered electricity generation increased by 7.4 TWh (7.3%) to meet demand even as overall renewable generation increased (CARB, 2023).

Environmental Effects

Air Quality

Construction activities related to the decommissioning would use various construction equipment. Equipment that is anticipated to be used for the proposed action includes crew trucks, a 4,000-gallon water truck, excavators, dump trucks/large haul trucks, a generator, and water pumps. The use of this equipment would result in temporary localized emissions of criteria pollutants through fugitive dust and vehicle exhaust. Vehicle emissions would also emit greenhouse gas emissions. Given the temporary and intermittent nature of construction-related emissions, and PG&E's proposed adherence to best management practices and measures to be required in any 401 certification, Commission staff find that removal of project features under both the proposed action and full removal alternative would not cause or significantly contribute to violations of any applicable ambient air quality standards, or significantly affect local or regional air quality.

Greenhouse Gases and Climate Change

Decommissioning the project would result in 8 megawatt hours of lost generation. However, staff recognize this development has not generated for about four years. The vehicles and equipment used for removal of project features would result in short-term, temporary increases in greenhouse gas emissions. However, these activities would not significantly add traffic capacity to the Battle Creek area or increase vehicular emissions over the long term. Commission staff find that any contributions to greenhouse gases during project removal would be short-term during construction and insignificant.

7.0 CUMULATIVE EFFECTS

According to the CEQ's regulations for implementing NEPA, an action may cause cumulative effects on the environment if its effects overlap in space and/or in time with the effects of other past, present, or reasonably foreseeable future actions, regardless of what agency or person undertakes such other action. Cumulative effects can result from individually minor, but collectively significant, actions.

Aquatic, terrestrial, and aesthetic resources have the potential to be cumulatively affected by the proposed action in combination with other past, present, and future activities. Long-term effects of the proposed action would be positive, including a return to unregulated flows and an increase in available aquatic and riparian habitats, benefiting

terrestrial and aquatic species and adding value to the aesthetic of the landscape. Under the new Phase 2 of the Battle Creek Restoration Project, filed September 9, 2022, PG&E proposes to remove the South Diversion Dam, Soap Creek Feeder Diversion Dam, Lower Ripley Creek Feeder Diversion Dam, and Coleman Diversion Dam. The removal of Coleman Diversion Dam would allow anadromous salmonids access to SFBC between Inskip Diversion Dam and South Powerhouse. Substantial cumulative beneficial effects would occur from implementation of the proposed action and new Phase 2 of the Battle Creek Restoration Project, which would remove all artificial migration barriers on SFBC and allow Pacific lamprey and listed anadromous salmonids to regain access to many miles of historically available spawning and rearing habitat. Non-listed resident fish populations would also benefit from improved habitat connectivity and a restored stream channel. Increased access to habitat is likely to increase population abundances, resistance, and resilience. Additionally, the return of anadromous salmonids would benefit socioeconomics by improving the recreational fishing experience available to the public and Oasis Springs Lodge guests. Therefore, the removal of Inskip Diversion Dam would have a substantial beneficial effect on the migratory corridors and critical habitat for Central Valley spring-run Chinook salmon and Central Valley steelhead, abundance of resident fish populations, and socioeconomics of the region.

Once the proposed action is complete and if Coleman Diversion Dam is removed under new Phase 2 of the Battle Creek Restoration Project, the potential of infectious hematopoietic necrosis virus to spread to Mount Lassen Trout Farms facilities and Darrah Springs State Fish Hatchery could increase as described in the 2005 EIS. Potential effects to fish communities and PM&E measures to avoid or minimize potential effects of disease associated with the potential removal of Coleman Diversion Dam are also described in the 2005 EIS.

The Battle Creek Project relies upon the cross-basin transfer of water from NFBC into SFBC. This mixing of water can cause temperature fluctuations and may also result in a false attraction of returning pre-spawning adult winter-run Chinook salmon into SFBC instead of NFBC, their natal stream. Implementing the proposed action would temporarily eliminate the cross-basin mixing that may result in false attraction of adult winter-run Chinook salmon into the SFBC. This temporary elimination is the result of South Powerhouse not operating during the construction period. Under the current project plan, South Powerhouse would return to operations following construction, resulting in the continuation of cross-basin mixing. Although this cross-basin mixing is permitted under the existing license FWS, NMFS, and California DFW have commented that the transfer should be eliminated as part of the final surrender process. To date the licensee has not proposed a long-term strategy to prevent this cross-basin mixing.

PG&E does not intend to continue operating the Battle Creek Project but rather intends to file a surrender application. PG&E is proposing to address the water mixing of the NFBC and the SFBC in its surrender application. Because the surrender application has not been filed yet, it is not possible to identify the cumulative effects of that action at this time.

8.0 CONCLUSIONS AND RECOMMENDATIONS

PG&E proposes to remove Inskip Diversion Dam, adjacent infrastructure, fish ladder, and approximately 30,000 to 56,000 cubic yards of sediment from behind the dam. Inskip Diversion Dam has required several significant repairs and improvements resulting from storm damage. Erosion of the sluiceway and dam toe present a facility safety risk and dam removal provides the most protection. PG&E proposes multiple enhancement measures and would restore the upstream work zone to a more natural fish friendly environment.

Based on our independent review of the application, comments we received, and our review of the environmental effects of the proposed action, we find that the removal of Inskip Diversion Dam with PG&E's recommended mitigation measures listed in Section 3.4, with the mandatory conditions set forth in the Water Board's 401 certification, and additional staff recommendations, is the preferred alternative.

The licensee's mitigation measures include: bank stabilization; site restoration and revegetation; surveys and avoidance measures for special status plants, avian nesting, and bats; cleaning and disinfecting equipment; developing a mandatory Worker Environmental Awareness Program; proper storage of hazardous materials; posting signs at recreational access areas, notifying the public of construction periods, and noise abatement measures; and notifying the Oasis Resort when activities would be occurring. The licensee would also develop plans for water quality monitoring plan, fish rescue and relocation, and a spill prevention plan, in consultation with the resource agencies.

The WQC requires the licensee to develop several plans and reports, Commission staff would also require that copies of these plans and reports be filed with the Commission. Condition 2 requires the licensee to file a Relocation Report, if species relocation is required, annually and at least 60 days after project completion, and documentation that permanent wetland loss has been mitigated. Condition 3 requires the licensee to file a Diversion and Dewatering Plan and Water Quality Monitoring Reports. Condition 4 requires the development of a Spill Prevention and Control Plan. Condition 8 requires progress reports every 60 days and within four years of completion of the proposed action, the licensee must file a Post Construction Restoration Report.

Additionally, Commission staff recommend that the licensee, in consultation with the resource agencies, develop a plan that fully details the geophysical and biological requirements to successfully restore the stream to the proposed nature-like condition, for Commission approval.

While limited, temporary construction-related effects may occur during project activities, long- term positive effects would occur as a result of the proposed action. These long-term benefits include returning the streamflow in South Fork Battle Creek to an unregulated natural flow in the project area, which would increase available aquatic and riparian habitat and improve water quality. The improvements in aquatic habitats would also add to the aesthetic and recreational value of the project area landscape.

We recommend this alternative because: (1) it eliminates the ongoing safety issues associated with Inskip Diversion Dam; (2) it restores the area to a more natural condition; (3) the public benefits of the staff alternative would exceed those of the no-action alternative; and (4) the recommended measures would protect and enhance aquatic, terrestrial, and cultural resources and threatened and endangered species at the project.

9.0 FINDING OF NO SIGNIFICANT IMPACT

If the proposed amendment, that would include the removal of Inskip Diversion Dam, is approved with PG&E's proposed protection measures, the Water Board's WQC mandatory conditions, and Commission staff's recommendations the project would return to a more natural environmental condition with long-term benefits. The proposed action would not constitute a major federal action significantly affecting the quality of the human environment.

Appendix A: Statutory and Regulatory Requirements

A-A.1 CLEAN WATER ACT

Under section 401(a)(1) of the Clean Water Act (CWA),[25] any applicant for a federal license or permit to conduct activities that may result in a discharge into United States waters, must obtain either a water quality certification (water quality certification or certification) from the appropriate state pollution control agency verifying that any discharge from the project would comply with applicable provisions of the CWA or a waiver of such certification. If the state "fails or refuses to act on a request for certification, within a reasonable period of time (which shall not exceed one year) after receipt of such a request," then certification is deemed waived.

On March 8, 2023, Pacific Gas and Electric Company (PG&E) filed a copy of its application for a water quality certification sent to the California State Water Resources Control Board (Water Board), for the removal of Inskip Diversion Dam. On March 13, 2023, Commission staff issued a Notice of Waiver Period for Water Quality Certification Application setting a reasonable period of time to act on the certification request of March 8, 2024.

On March 8, 2024, Water Board issued its certification for the Inskip Diversion amendment. The water quality certification conditions are included in Appendix D and discussed in the specific resource sections of section 6.0, Environmental Analysis.

A-A.2 ENDANGERED SPECIES ACT

Section 7 of the Endangered Species Act of 1973 (ESA)[26] requires federal agencies to ensure that their actions are not likely to jeopardize the continued existence of federally listed threatened or endangered species or result in the destruction or adverse modification of the critical habitat of such species. Commission staff determined that the project does not support habitat for conservancy fairy shrimp, vernal pool tadpole shrimp, and vernal pool fairy shrimp. The project site is also outside the range for valley elderberry longhorn beetle, least Bell's vireo, Sierra Nevada red fox, and slender Orcutt grass. Because the project site lacks suitable habitat or is outside the range of these species, Commission staff have determined that the proposed action would have no effect on these species.

In support of its amendment request, the licensee included in its application a final Biological and Essential Fish Habitat Assessment (BA), which addresses the effects of the project on Sacramento winter-run Chinook salmon, Central Valley spring-run

[25] 33 U.S.C. § 1341(a)(1).

[26] 16 U.S.C. § 1536(a).

Chinook salmon, and Central Valley steelhead trout. Sacramento winter-run Chinook salmon Evolutionarily Significant Unit (ESU), Central Valley spring-run Chinook salmon ESU, and Central Valley spring-run steelhead Distinct Population Segment (DPS) are not present in the proposed action area. The BA also evaluated the effects of the project on designated critical habitat for the Sacramento winter-run Chinook salmon and the Central Valley spring-run Chinook salmon.

Commission staff determined that the proposed action may affect, but is not likely to adversely affect, Sacramento winter-run Chinook salmon, Central Valley spring-run Chinook salmon, and Central Valley steelhead. We also conclude that the proposed action may affect, but is not likely to adversely affect, critical habitat for freshwater spawning sites, rearing sites, and migration corridors. On January 30, 2024, Commission staff sent a letter to the National Marine Fisheries Service (NMFS) requesting informal section 7 consultation asking for concurrence on these determinations.

On March 25, 2024, NMFS concurred with our determination that the proposed action is not likely to adversely affect the NMFS ESA-listed species and/or designated habitat.

A-A.3 MAGNUSON STEVENSON FISHERY CONSERVATION AND MANAGEMENT ACT

Section 305(b)(2) of the Magnuson-Steven's Fishery Conservation and Management Act (MSA)[27] requires federal agencies to consult with the Secretary of Commerce regarding action or proposed action authorized, funded, or undertaken by the agency that may adversely affect Essential Fish Habitat (EFH) identified under the Act. Under section 305(b)(4)(A) of the Magnuson-Stevens Act, the National Marine Fisheries Service (NMFS) is required to provide EFH conservation recommendations for actions that would adversely affect EFH.[28] Under section 305(b)(4)(B) of the Act, an agency must within 30 days after receiving recommended conservation measures from NMFS or a Regional Fishery Management Council, describe the measures proposed by the agency for avoiding, mitigating, or offsetting the effects of the agency's activity on EFH. [29]

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[27] 16 U.S.C. § 1855(b)(2).

[28] *Id.* § 1855(b)(4)(A).

[29] *Id.* § 1855(b)(4)(B). These measures recommended by the Secretary of Commerce are advisory, not prescriptive. However, if the federal agency does not agree with the recommendations of the Secretary of Commerce, the agency must explain its reasons for not following the recommendations.

Sacramento winter-run Chinook salmon ESU, Central Valley spring-run Chinook salmon ESU, and Central Valley spring-run steelhead DPS are not present in the proposed action area. However, critical habitat and/or EFH for these species included the proposed action area. In support of its amendment request, the licensee included in its application a final BA, which addressed the effects of the project on EFH for winter-run and spring run Chinook salmon. In addition, EFH for one non-listed ESU, Central Valley fall-/late fall-run Chinook salmon which also occurs in the action area. Commission staff concluded the proposed action may have a temporary adverse effect on EFH for Pacific Coast salmon but would not detrimentally affect EFH for Pacific Coast salmon. On January 30, 2024, Commission staff sent a letter to NMFS requesting EFH consultation asking for concurrence on these determinations.

In its letter filed March 25, 2024, NMFS concluded that the proposed action would not adversely affect EFH based on the short-term duration of construction activities, implementation of the Conservation Measures included in the BA, and may include long term benefits of habitat restoration. NMFS concluded that consultation under Magnuson-Stevens Act is not required.

A-A.4 NATIONAL HISTORIC PRESERVATION ACT

Section 106 of the National Historic Preservation Act (NHPA), 54 U.S.C. § 306108, requires that a federal agency "take into account" how its undertakings could affect historic properties. Historic properties are districts, sites, buildings, structures, traditional cultural properties, and objects significant in American History, architecture, engineering, and culture that are eligible for inclusion in the National Register of Historic Places (National Register).

Commission staff designated PG&E as its non-federal representative for the purposes of conducting section 106 consultation under the NHPA on April 4, 2019. Pursuant to section 106, and as the Commission's designated non-federal representative, PG&E initiated consultation with the California State Historic Preservation Office (California SHPO), and potentially affected Tribes to identify historic properties, determine National Register eligibility, and assess potential adverse effects on historic properties within the project's area of potential effects (APE).

The Inskip Diversion Dam was previously found to be eligible under National Register Criteria A (associated with events that have made a significant contribution to the broad patterns of our history) and Criteria B (associated with the lives of significant persons in or past). The California State Historic Preservation Officer (SHPO) concurred with the determination on December 20, 2000.

In preparation for PG&E's proposal to completely remove Inskip Diversion Dam, Section 106 studies were completed. On April 8, 2021, a Finding of Effect (FOE)

analysis report was finalized to document the finding and seek concurrence from SHPO that the proposed removal of the dam would result in an adverse effect to the historic property. The analysis concluded that the destruction and removal of Inskip Diversion Dam would result in an adverse effect to the historic property following the guidelines in Section 106, 36 CFR 800.11. The California SHPO concurred with the determination of Adverse Effects to Inskip Diversion Dam in a letter filed August 8, 2021.

Our analysis of project effects on cultural resources is presented in section 6.10, Cultural and Historic Resources, Environmental Effects. We intend to execute a Memorandum of Agreement (MOA) with the California SHPO for the protection of historic properties from the removal of Inskip Diversion Dam.

A-A.5 EXECUTIVE ORDERS 12898 AND 14008

The Commission follows Executive Order 12898, which directs federal agencies to identify and address "disproportionately high and adverse human health or environmental effects" of their actions on minority and low-income populations (i.e., environmental justice communities).[30] Executive Order 14008 also directs agencies to develop "programs, policies, and activities to address the disproportionately high and adverse human health, environmental, climate-related and other cumulative impacts on disadvantaged communities, as well as the accompanying economic challenges of such impacts."[31]

Environmental justice is "the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies" (EPA, 2021b).

Commission staff identified one potential environmental justice community within a 1-mile radius of the project boundary and considered how the community may be

[30] Exec. Order No. 12,898, 59 Fed. Reg. 7629 (Feb. 16, 1994). While the Commission is not one of the specified agencies in Executive Order 12898, the Commission nonetheless addresses environmental justice in its analysis, in accordance with our statutory duties.

[31] Exec. Order No. 14,008, 86 Fed. Reg. 7619 (Feb. 1, 2021). The term "environmental justice community" includes disadvantaged communities that have been historically marginalized and overburdened by pollution. Id. § 219, 86 Fed. Reg. 7619, 7629. The term also includes, but may not be limited to, minority populations, low-income populations, or indigenous peoples (EPA, 2021a).

affected by sound, visual, and traffic effects of the construction and the effect of reduced public access to the river during dam removal activities. Our analysis of the project's effects on this community is presented in section 6.12, *Environmental Justice*. We conclude that approving the amendment application would not result in disproportionate and adverse effects on the identified environmental justice population.

Appendix B: Figures

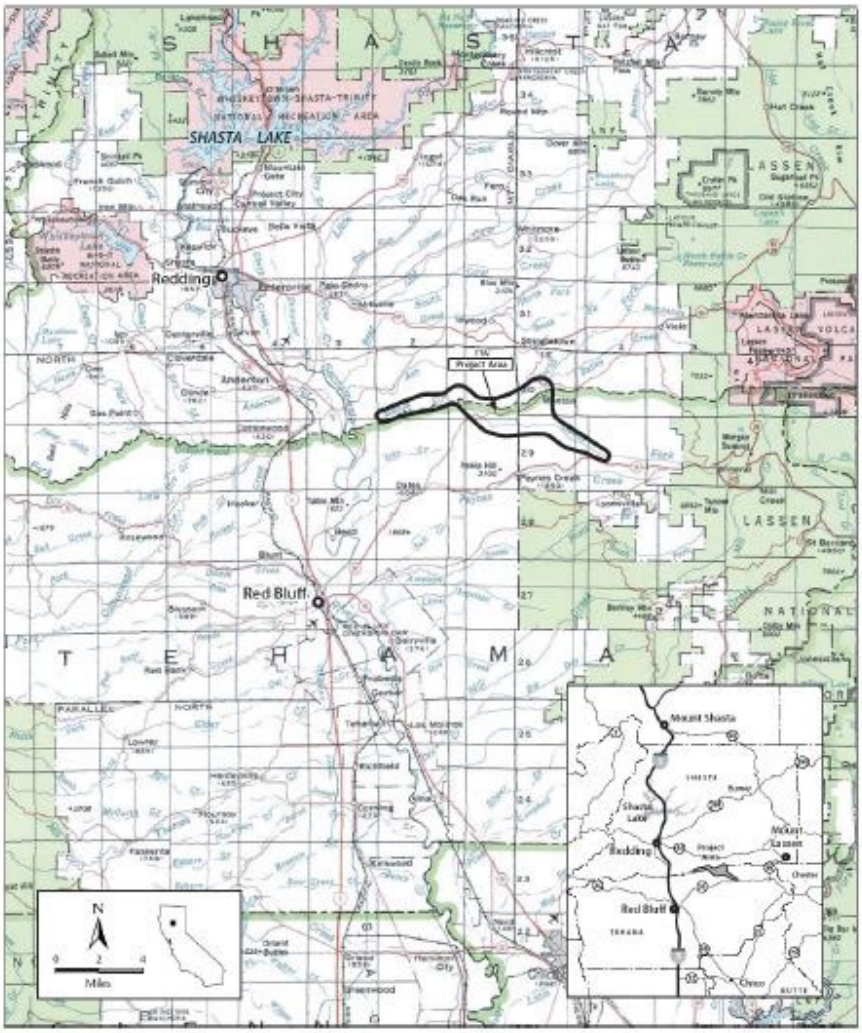

Figure 1. Battle Creek Project location (source PG&E).

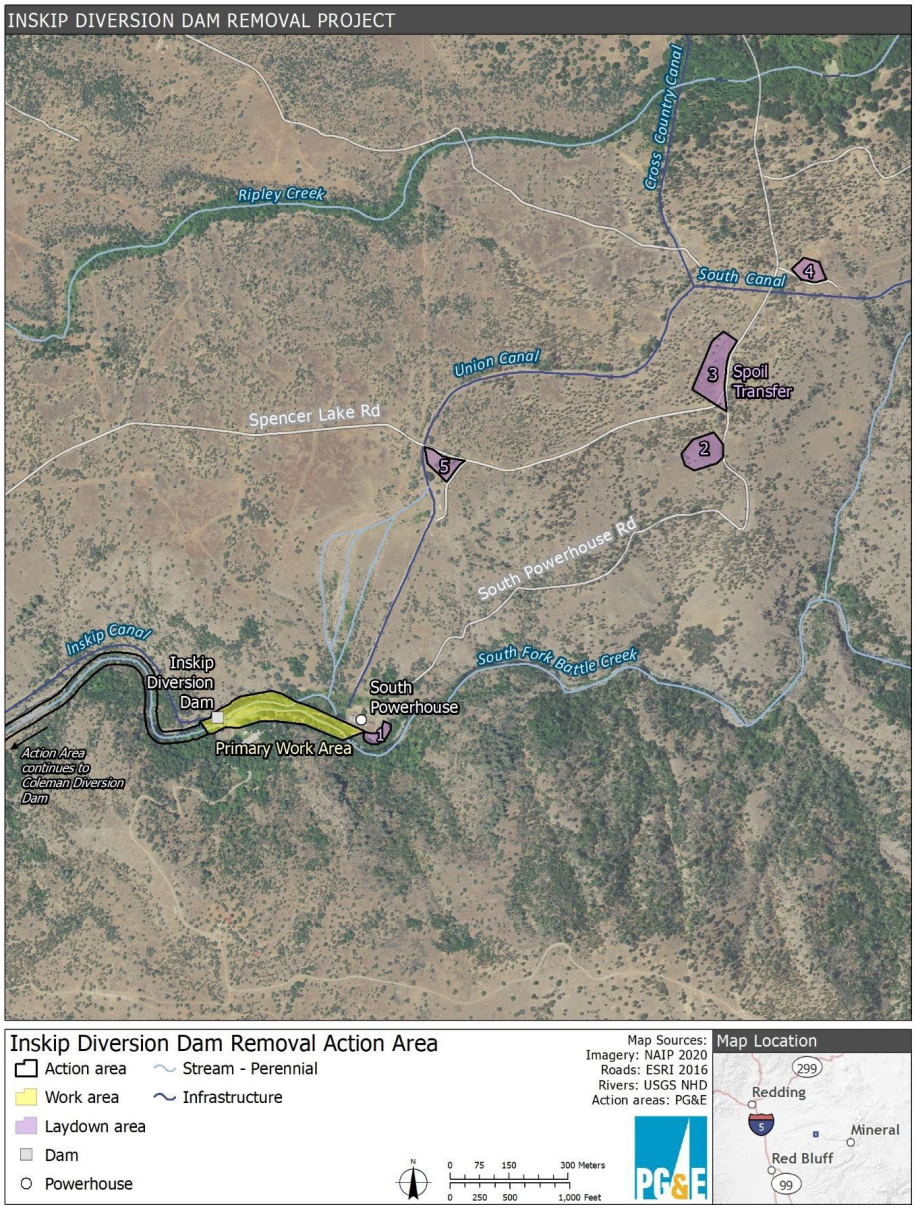

Figure 2. Inskip Diversion Dam removal action areas (source: PG&E).

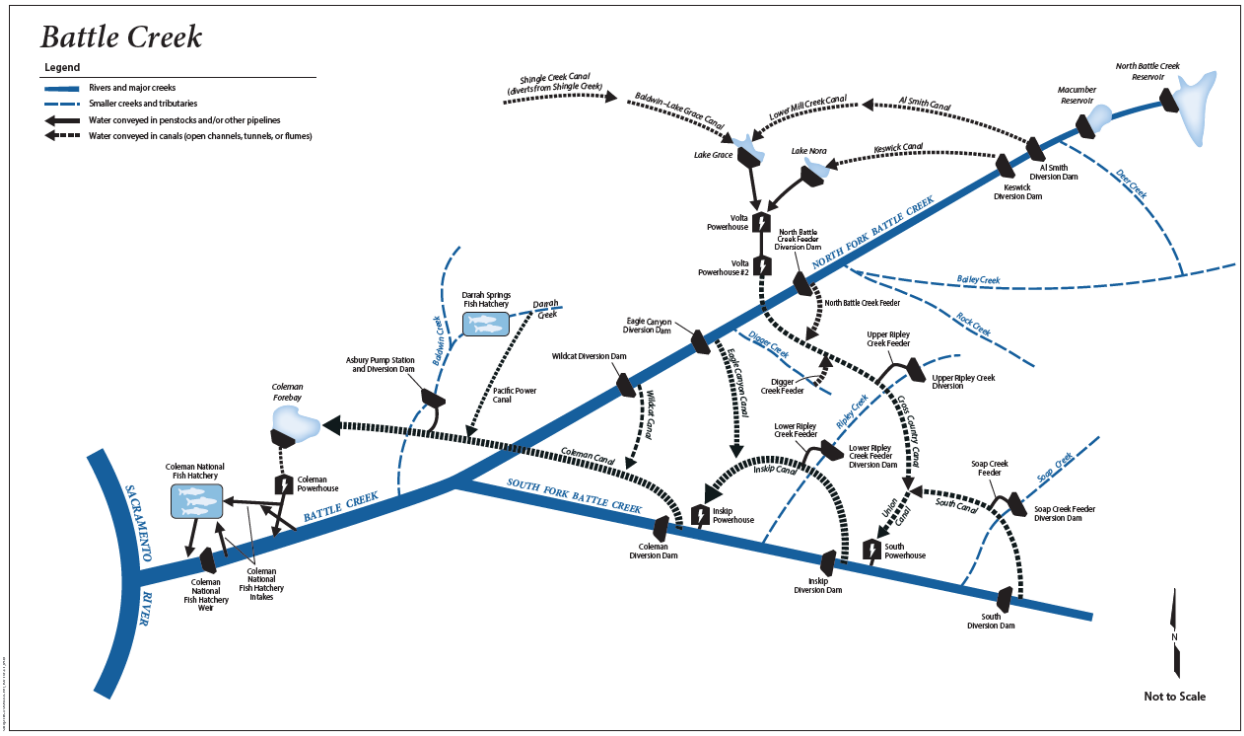

Figure 3. Diagram of the Battle Creek Hydroelectric Project and associated canals and feeders (source: PG&E). Note this diagram is not to scale.

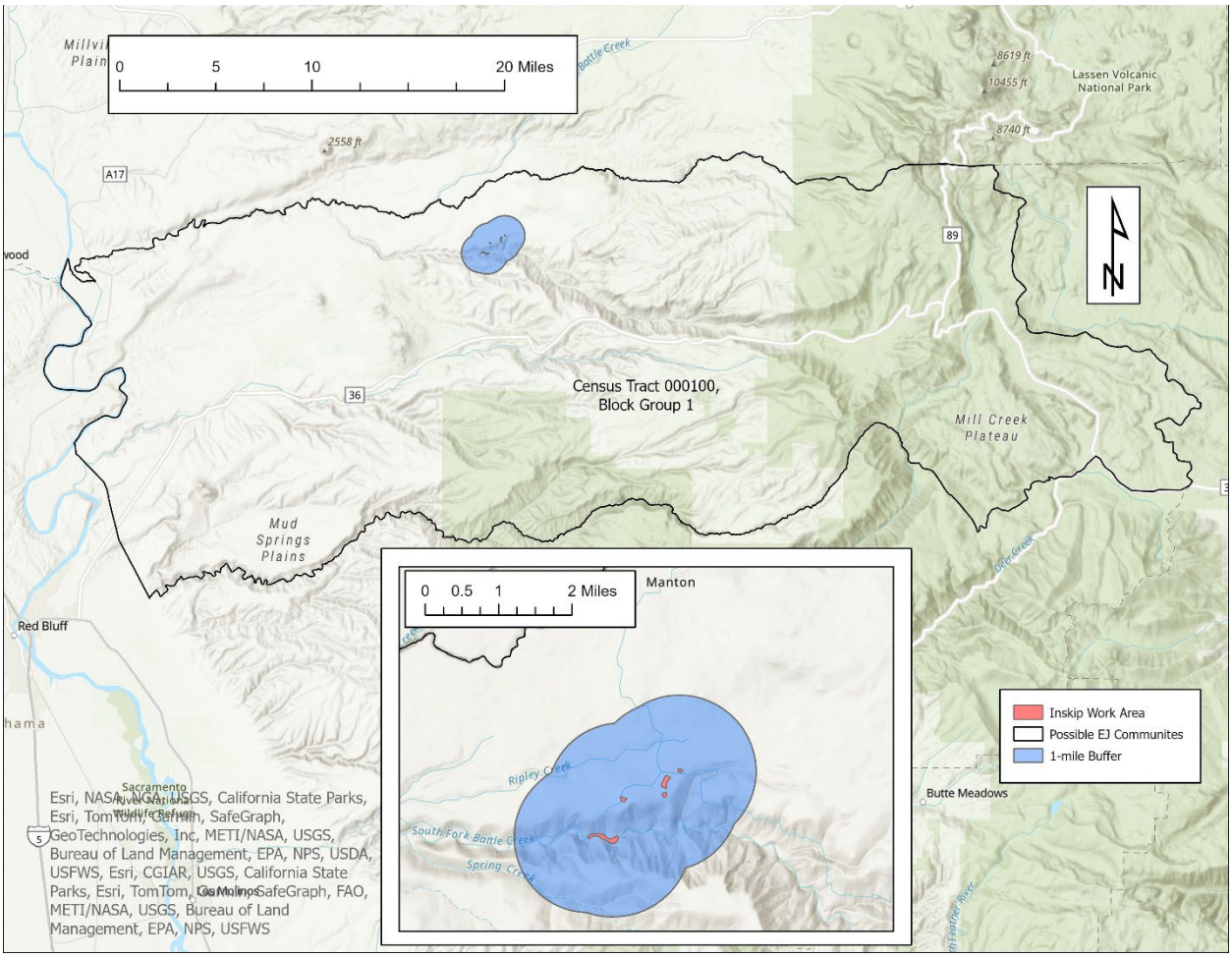

Figure 4. Block groups within 1-miles of the work area (source Commission staff).

Appendix C: Tables

Table 1. Minority populations by race and ethnicity and low-income populations within one-mile of the work area.

State/County/Census Tract and Block Groups	Total Population	**White[a]**	**Black or African American[a]**	**American Indian & Alaska Native[a]**	**Asian[a]**	**Native Hawaiian & Other Pacific Islander[a]**	**Some Other Race[a]**	**Two or More Races[a]**	**Hispanic or Latino (any race)[a]**	**Total Minority Population[a]**	**House-holds in Poverty[b]**
State of California	39,356,104	35.2%	5.3%	0.3%	14.9%	0.3%	0.4%	3.8%	39.7%	64.8%	11.8%
Tehama County California	65,484	65.2%	0.9%	0.8%	1.9%	>0.1%	0.3%	4.0%	26.9%	34.8%	16.8%
Census Tract 000100, Block Group 1	815	87.1%	2.6%	0.0%	2.9%	0.0%	0.0%	3.7%	3.7%	12.9%	17.1%*

A blue shaded cell with red text and an * denotes a qualifying value for inclusion as an environmental justice community.

[a] U.S. Census Bureau, 2022a

[b] U.S. Census Bureau, 2022b

Appendix D: Water Quality Certification Conditions

ACCORDINGLY, BASED ON ITS INDEPENDENT REVIEW OF THE RECORD, THE CALIFORNIA STATE WATER RESOURCES CONTROL BOARD CERTIFIES that implementation of the Battle Creek Hydroelectric Project – License Amendment for Removal of Inskip Diversion Dam (Project) by Pacific Gas and Electric Company (PG&E or licensee) 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. Project Activities

Unless otherwise modified by conditions of this water quality certification (certification) or approved by the State Water Resources Control Board (State Water Board) Deputy Director of the Division of Water Rights (Deputy Director), the Licensee shall implement the Project: (1) as described in PG&E's March 8, 2023, certification application, (including listed Protection, Mitigation, and Enhancement Measures) (PG&E 2023a); (2) supplemental submission clarifying Project activities submitted by PG&E on October 4, 2023 (PG&E 2023b and PG&E 2023c) and February 14, 2024 (PG&E 2024); and (3) as modified below and by the conditions of this certification.

The licensee shall comply with the minimum instream flows (MIFs) in its existing Federal Energy Regulatory Commission (FERC) license for the Battle Creek Hydroelectric Project (FERC Project No. 1121)[32]. In addition, the licensee shall comply with the, "Agreement by the United States to Pay Pacific Gas and Electric Company for Reducing Diversions from Battle Creek to the Battle Creek Project" (also known as Interim Flow Agreements) which states "minimum instream flows of 30 cfs [cubic feet per second] (±5 cfs) for SFBC [South Fork Battle Creek]" will be maintained during and after construction of the Project.

CONDITION 2. Biological Resources Protections

To reduce potential impacts to biological resources during Project implementation, and unless otherwise approved by the Deputy Director, the licensee shall implement the biological resource protection measures as described in Section E.4.3.3 of PG&E's certification application, and as modified by the below.

[32] MIFs for South Fork Battle Creek are listed in FERC's August 25, 2009 Order Amending License for the Battle Creek Hydroelectric Project (FERC 2009). Existing MIFs at the time of certification issuance are 5 cfs below Inskip Diversion Dam and 30 cfs below Coleman Diversion Dam.

- Worker Environmental Awareness Training (Section 2.4, Bullet 20; Section E.4.3.3, Bullet 1; Section E.4.4.3, Bullet 1; Section E4.5.3, Bullet 1; Section E4.5.3, Bullet 7): Worker Environmental Awareness Training shall be provided to all personnel prior to commencing work. The training shall at a minimum include:

    - A review of the California and federal Endangered Species Acts and the consequences of noncompliance.
    - A review of the presence, life history, and habitat requirements of all special-status species[33] that may be affected by the Project.
    - A review of avoidance and protection measures that shall be implemented to minimize the potential for effects to these species and habitats.
    - A review of applicable elements of the Project certification to ensure personnel implement measures to protect water quality and beneficial uses.

The Worker Environmental Awareness Training shall be conducted prior to construction in each year involving Project construction activities and shall be provided to any new personnel prior to those personnel conducting on-site Project work.

- Aquatic Species Rescue and Relocation (Section E.4.3, Bullet 2): The Licensee shall implement the Aquatic Species Rescue and Relocation Measure as proposed in PG&E's March 8, 2023 certification application, and as modified by the below to ensure protection of foothill yellow-legged frogs, western pond turtles, and any fish present during Project implementation.

If aquatic species relocation is required, the Licensee shall submit a Relocation Report to the State Water Board and California Department of Fish and Wildlife (CDFW) annually by February 28 for the preceding year's work, with the last report submitted no later than 60 days following Project completion. At a minimum, Relocation Reports shall include:

- Date of capture and relocation;
- Method of capture;
- Species, life stage, fork length/weight (for rescued and relocated fish);
- Location of relocation, described and as depicted on a map that includes the Project area; and
- Total number of aquatic species captured and relocated.

The final Relocation Report shall include a summary of the items listed above for the entire Project period.

[33] Special status species include any California Endangered Species Act, federal Endangered Species Act, CDFW species of special concern, or CDFW fully protected species with the potential to exist in the Project area.

If a CDFW Lake and Streambed Alteration Agreement or another federal permit is issued for this Project that includes provisions for aquatic species rescue and relocation, the more stringent requirements between this condition and other permit(s) shall apply.

- Laydown Areas (Section E.4.3.3, Bullet 3): Laydown areas shall be surveyed in winter or early spring prior to use. If vernal pool habitat is observed, the laydown area shall be moved to at least 50 feet from the vernal pool habitat.

- Construction Surveys (Section E.4.3.3, Bullet 4): The amount of time that logs, spoils, and/or debris piles are left on site and within 100 feet of aquatic habitat shall be minimized. If left on site overnight, the underside of the edges of the logs, spoils, and/or debris piles shall be carefully inspected for amphibians prior to loading into vehicles. If amphibians are found, rescue and relocation actions shall be implemented, as needed to ensure species protection.

- Wetland Protections (Section E.4.3.3, Bullets 5, 6, and 7): No vehicles or equipment (with the exception of pumps used for dewatering) shall be refueled within 100-feet of wetlands, streams, or other waterways. Vehicles operating adjacent to wetlands and waterways shall be inspected and maintained daily to prevent leaks. If equipment must be washed, washing shall occur where wash water cannot flow into wetlands or surface waters. Stationary equipment (e.g., pumps and generators) used or stored within 100 feet of aquatic habitat shall have secondary containment. All applicable laws, regulations, and best management practices (BMPs) shall be followed with handling or storing chemicals (e.g., fuel, hydraulic fluid, etc.) near waterways.

The Project will result in temporary and permanent impacts to stream channel habitat. The Project is anticipated to have temporary impacts to approximately 1.836 acres of the stream channel along South Fork Battle Creek and approximately 1.014 acres of permanent impacts to stream channel habitat. The Licensee shall notify the Deputy Director of any update to the estimated temporary and permanent impacts if they vary from what is noted in this provision. Additionally, permanent impacts shall be compensated for at a minimum of a 1:1 ratio consistent with the *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State* (Dredge or Fill Procedures)[34] (State Water Board 2019 and 2021), the California Wetlands Conservation Policy (Governor's Executive Order W-59-93 (August 23, 1993)), and any amendments thereto. The Licensee shall provide the Deputy Director with documentation of compliance with this mitigation provision as part of the Completion Report (Condition 8).

[34] The Dredge or Fill Procedures and any amendments thereto. Available at: https://www.waterboards.ca.gov/water_issues/programs/cwa401/wrapp.html. Accessed on November 27, 2023.

- Flow Diversions (Section E.4.3.3, Bullet 8): The Licensee shall coordinate with National Marine Fisheries Service (NMFS), United States Fish and Wildlife Service (USFWS), United States Bureau of Reclamation (USBR), CDFW, and State Water Board staff on the timing and amount of flow diversions when resuming diversions from North Fork Battle Creek to South Fork Battle Creek following Project implementation. Flow resumption shall be conducted in a manner that is protective of water quality objectives and beneficial uses described in the *Water Quality Control Plan for the Sacramento River Basin and the San Joaquin River Basin (*Central Valley Basin Plan).[35]
- Invasive Species Management (Section E.4.3.3, Bullet 9; and as discussed in Section E.4.5.3): The Licensee shall implement the Invasive Species Management Measure as proposed in PG&E's March 8, 2023 certification application to minimize the potential spread of invasive species and pathogens such as Chytrid fungus (*Batrachochytrium dendrobatidis*) during Project construction.

CONDITION 3. Dewatering and Diversion

The Licensee shall develop and submit a Diversion and Dewatering Plan (Dewatering Plan) to the Deputy Director for review and consideration for approval. The Dewatering Plan shall be submitted to the Deputy Director a minimum of 60 days prior to commencement of Project dewatering activities unless another timeline is approved by the Deputy Director. The Deputy Director may require modifications as part of any approval.

The Dewatering Plan shall include procedures for dewatering and diversion, including appropriate BMPs that shall be implemented to protect water quality and beneficial uses, including maintaining required instream flows (Condition 1). The Licensee shall develop the Dewatering Plan in consultation with State Water Board, CDFW, and Central Valley Regional Water Quality Control Board (Central Valley Regional Water Board) staff.

At a minimum, the Dewatering Plan shall include:

- A description of the installation, operation, and maintenance (e.g., inspection and follow-up actions) of dewatering systems, as well as the locations, quantity, and anticipated timing of dewatering and diversion activities.
- An overview and schedule of all in-water and water-adjacent work, including work related to dewatering and diversion of water for Project implementation.

[35] The Central Valley Basin Plan and any amendments thereto. (Central Valley Regional Water Board 2019.) Available at: https://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/sacsjr_201902.pdf. Accessed March 5, 2024

- Site plan map(s) and/or drawings.
- List of all infrastructure that will be removed and any that will remain in place.
- Description of cofferdams or other barriers that will be used to isolate the construction area from surface waters. This includes any upstream cofferdams that may be installed to armor the existing ford in South Fork Battle Creek adjacent to South Powerhouse during Project activities.
- List of construction materials that will be used in or adjacent to the surface waters.
- Description of dewatering activities, including the location for discharges associated with dewatering, the length and location of dewatered stream segments, and equipment and methods used for dewatering and water diversions.
- Description of measures, if needed, that will be implemented to avoid potential water quality and aquatic resource impacts including any energy-dissipating features at diversion outlets to prevent erosion. Measures may reference biological resources protections and erosion and sediment control measures required by Condition 2 and 5, respectively.
- Actions that will be implemented to ensure discharges associated with dewatering and water diversion will not exceed water quality objectives, as defined in the Central Valley Basin Plan.
- Proposed water quality monitoring and reporting related to in-water Project activities that shall at a minimum include the parameters and monitoring specified below in this condition. The Licensee shall describe the locations, equipment, frequency, methods, and quality assurance/quality control process for water quality monitoring that will be implemented.
- Documentation of consultation with Central Valley Regional Water Board, 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 changes to the Dewatering Plan shall be submitted to the Deputy Director prior to implementation. The Licensee shall not commence Project dewatering or diversion without receipt of Deputy Director approval of the Dewatering Plan. The Licensee shall implement the Dewatering Plan upon receipt of Deputy Director and any other required approvals, in accordance with the schedule and requirements specified therein. Upon approval the Licensee shall submit the updated Dewatering Plan to the USACE and FERC.

Water Quality Monitoring. Water quality monitoring shall be performed as described in this condition unless otherwise approved by the Deputy Director. The Licensee shall monitor water quality during in-water and water-adjacent work with the potential to result in a discharge to surface waters, which includes, but is not limited to dewatering activities. At a minimum, water quality monitoring shall be performed during dewatering, rewatering, Inskip Diversion Dam and fish ladder removal, temporary water diversion around the Project area, installation and removal of cofferdams, armoring of the

access ford and any potential removal, and any other Project activities within South Fork Battle Creek's ordinary high-water mark with the potential to impact water quality.

At a minimum, monitoring shall be conducted at 15-minute intervals using an automated sensor system for turbidity, pH, dissolved oxygen, and temperature. Additionally, the Licensee shall monitor for visible construction-related pollutants (e.g., oils, greases, fuels) throughout the Project's activities.

Monitoring Reports. As part of Progress Reports (Condition 8), the Licensee shall submit water quality monitoring information. Monitoring information shall include: (1) monitoring results including raw data; (2) a description of monitoring methods, including equipment, frequency of data collection, quality assurance/quality control protocols; and (3) description of any water quality exceedances or information necessary to understand to results. If determined necessary by the Deputy Director, the Licensee shall consult with State Water Board staff regarding the need for additional site-specific measures to protect water quality.

Reporting of Exceedances. The Deputy Director and the Central Valley Regional Water Board Executive Officer (Executive Officer) shall be notified promptly, and in no case more than 24 hours following an exceedance of any water quality objective, as described in the Central Valley Basin Plan. The notice shall include the cause of the violation, measures taken to correct the violation, and measures the Licensee will implement to prevent future violations. Regardless of when such notification occurs, activities associated with the Central Valley Basin Plan the exceedance shall cease immediately upon detection. Work activities may resume after corrective actions have been implemented, water quality meets the Central Valley Basin Plan water quality objective, and the Deputy Director has provided approval to proceed. The Deputy Director may require additional actions to help prevent similar exceedances in the future.

Water Quality Objectives. The Licensee shall comply with applicable water quality objectives established in the Central Valley Basin Plan, including those listed below.

Turbidity: The Licensee shall not increase turbidity to levels that cause nuisance or adversely affect beneficial uses. Increases in turbidity attributed to Project activities shall not exceed the following limits:

- Where natural turbidity is less than 1 Nephelometric Turbidity Unit (NTU), controllable factors shall not cause downstream turbidity to exceed 2 NTU.
- Where natural turbidity is between 1 and 5 NTUs, increases shall not exceed 1 NTU.
- Where natural turbidity is between 5 and 50 NTUs, increases shall not exceed 20 percent.
- Where natural turbidity is between 50 and 100 NTUs, increases shall not exceed 10 NTUs.

- Where natural turbidity is greater than 100 NTUs, increases shall not exceed 10 percent.

Turbidity shall be measured using a maximum 24-hour averaging period.

pH: The Licensee shall not depress pH below 6.5 nor raise it above 8.5. If the natural pH level is below 6.5, the Licensee shall not depress pH below the natural level. If the natural pH level is above 8.5, the Licensee shall not raise pH above the natural level.

Dissolved Oxygen: The Licensee shall not decrease dissolved oxygen below seven milligrams per liter.

Temperature: The natural receiving water temperature of intrastate waters shall not be altered unless it can be demonstrated to the satisfaction of the Central Valley Regional Water Board that such alteration in temperature does not adversely affect beneficial uses. At no time or place shall the temperature of COLD or WARM intrastate waters be increased more than 5° Fahrenheit (F) above natural receiving water temperature.

Monitoring Locations. The Licensee shall monitor for turbidity, pH, temperature, and dissolved oxygen at the following general locations:

- Upstream of the work area, outside the influence of the Project.
- No more than 300 feet downstream of the access ford crossing.
- No more than 300 feet downstream of the Project area.

The Licensee shall take a global positioning system point and a photograph for each proposed monitoring location and provide them to Central Valley Regional Water Board and State Water Board staff at least two weeks prior to starting water quality monitoring. The Deputy Director may require the Licensee to use other or additional locations if the submitted locations are inadequate.

The Licensee shall conduct visual pollutant monitoring throughout the entire length of South Fork Battle Creek within or adjacent to the active work area.

CONDITION 4. Hazardous Materials

Unless otherwise approved by the Deputy Director, the Licensee shall implement applicable hazardous materials[36] control measures as described in United States

[36] Hazardous materials include, but are not limited to, petroleum products, pesticides, fuels, lubricants, oils, hydraulic fluids, raw cement, concrete or the washing thereof, asphalt, paint, coating material, drilling fluids, or other substances potentially hazardous to water quality and beneficial uses.

Department of Agriculture-Forest Service (Forest Service) *Water Quality Management for Forest System Lands in California, Best Management Practices* (Forest Service 2000), *Forest Service National Best Management Practices for Water Quality Management on National Forest System Lands* (Forest Service 2012), and as listed below:

- Colman National Fish Hatchery (Section E.4.2.3 Bullet 4): In the event of an inadvertent hazardous materials release, the Licensee shall immediately cease any activities that resulted in the release and implement measures to limit and clean up the release. The Coleman National Fish Hatchery, Deputy Director, Executive Officer, and other relevant agencies shall be notified immediately. The notification shall include the type and quantity of material released, cause of the release, corrective measures taken, and measures the Licensee will implement to prevent a future release. The Deputy Director may require additional actions to help prevent similar releases in the future. The Licensee may resume work upon Deputy Director approval.
- Spill Prevention and Control Plan (Section E.4.2.3 Bullet 3): The Licensee shall develop a Spill Prevention and Control Plan for review and approval by the Deputy Director. The plan shall be developed in coordination with State Water Board and the Central Valley Regional Water Board staff. The Deputy Director may require modifications as part of any approval. The Licensee may request updates to the Spill Prevention and Control Plan and implement those changes following Deputy Director approval. The Licensee shall file the Deputy Director approved Spill Prevention and Control Plan and any updates thereto with FERC and the USACE.
- Contaminated Soils (Section 4.2.3 Bullet 3): Construction workers shall receive training to identify indications of contamination. Soils that are suspected to be contaminated with be tested at an approved certified laboratory. If contaminated soils is present, it shall be disposed of in accordance with applicable state and federal rules and regulations.
- A minimum of 30 days prior to beginning Project construction, the Licensee shall submit to State Water Board staff a list of equipment, hazardous materials, and cleanup materials and equipment that will be used and stored in laydown and work areas.
- Caution shall be used when handling and/or storing hazardous materials near waterways. Appropriate materials shall be on site to prevent and manage spills.
- All containment areas shall include secondary containment. All containment structures shall comply with California Code of Regulations, title 27, section 20320. Secondary containment shall be specifically designed for hazardous material storage and sized to contain the most likely volume of hazardous materials that could be spilled. Secondary containment shall be positioned to catch any hazardous material spills due to overfilling or any other spills that may occur.
- Equipment refueling, maintenance, and washing shall be conducted in a manner that prevents hazardous materials from spilling on the ground or reaching waterways.

- In the event a spill is not captured by the secondary containment, it shall be considered hazardous waste and must be removed and disposed of in accordance with local and state requirements.
- When not in use, equipment shall be stored in upland areas outside the ordinary high-water mark of South Fork Battle Creek or in staging areas identified in PG&E's Final Application for Non-Capacity License Amendment for Removal of Inskip Diversion Dam (PG&E 2022).
- All equipment shall be inspected for leaks before entering the Project area and inspected daily while on site to prevent leaks of fuels, lubricants, or other hazardous materials into aquatic habitat.
- Any water contaminated by hazardous materials shall be considered a hazardous material and stored or disposed of in accordance with this condition and in a manner that does not impair water quality.
- All waste, including trash and litter, garbage, other solid waste, petroleum products, and other potentially hazardous materials (including equipment lubricants, solvents, and cleaners), shall be removed to an appropriate waste facility permitted or otherwise authorized to treat, store, or dispose of such materials.

CONDITION 5. Erosion and Sediment Control Measures

To reduce potential impacts to surface waters and unless otherwise approved by the Deputy Director, the Licensee shall implement the following erosion and sediment control measures described in Section E.4.1.3 of PG&E's March 8, 2023 certification application, including May 25, 2023 updates, and as modified below.

- Dry Work Area (Section E.4.1.3, Bullet 1): When preforming stream channel restoration work within the South Fork Battle Creek stream channel, all streamflow shall be diverted around the work area to minimize fine sediment mobilization and downstream turbidity.
- Bank Stabilization (Section E.4.1.3, Bullet 2): Bank stabilization/revegetation shall be implemented to ensure bare soils are covered with native plantings/seeding or other bank stabilization measures are implemented. Where bank soils require stabilization, coir (coconut fiber) fabric soil stabilization matting or similar BMPs shall be used. Native vegetation shall be established using a combination of topsoil, seeding, live stakes, tubelings (young seedling trees or bushes grown initially in tubes), or bare root plantings. Ground disturbance and vegetation removal shall not exceed the minimum amount necessary to complete work at the site.
- Road Stability (Section E.4.1.3, Bullet 3): To maintain the stability of an existing access road along the southern shore of South Fork Battle Creek, a retaining wall may be constructed. The retaining wall would support the stream-side shoulder of the access road and conform to existing roadway geometry.
- Erosion Controls (Section E.4.1.3 Bullet 4 and 5): South Fork Battle Creek, and any other aquatic habitats, wetlands, or riparian habitat shall be protected with silt fences,

fiber rolls, erosion control blankets, and other BMPs as necessary. Erosion controls shall be installed prior to Project construction and maintained throughout the Project. No fill, including vegetation trimmings, debris, or runoff, shall be allowed to enter South Fork Battle Creek or other aquatic habitats, wetlands, or riparian habitat. Erosion control materials shall be installed per manufacturing material specifications and shall not contain monofilament netting.

- Off Road Equipment (Section E.4.1.3, Bullet 6 and 9): Off-road equipment shall be cleaned to ensure that it is free of soil and plant parts prior to entering the Project area. When accessing work sites, travel and parking of vehicles shall be limited to pavement, existing roads, and previously disturbed areas (except where overland travel is required).
- Work Site Clean-up (Section E.4.1.3, Bullet 7 and 8): To the extent feasible, work areas shall be returned to pre-existing contours and conditions upon Project completion. Following Project completion, all construction materials, spoils, or other debris shall be properly disposed of or removed and stored in a manner that will not impact waterway.

The Licensee shall comply with the *National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities* (Construction General Permit; State Water Board 2022) and any amendments thereto; if there is any conflict between the conditions of this certification and applicable conditions in the Construction General Permit, the more stringent shall apply.

CONDITION 6. Recreation

To reduce potential impacts to recreation and unless otherwise approved by the Deputy Director, the Licensee shall implement the following recreational resources measures described in Section E.4.7.3 of PG&E's certification application, as modified below.

- Recreation Sign Posting (Section E.4.7.3 Bullet 1): A minimum of seven days prior to commencing Project activities, the Licensee shall post signs at the Ponderosa Way put-in and upstream of the Project area to inform whitewater boaters of Project activities between South Powerhouse and Inskip Diversion Dam. The sign shall include the anticipated timeline of Project activities that may impact flow and who to contact for additional information.
- Oasis Springs Lodge Notification (Section E.4.7.3 Bullet 2): A minimum of seven days prior to commencing Project activities, the Licensee shall notify Oasis Springs Lodge of the anticipated start date, duration, and type of activities to be performed.

CONDITION 7. Restoration

The Licensee shall implement measures to restore the Project area and reduce potential future erosion from disturbed areas associated with Project implementation that may result in discharges to South Fork Battle Creek. The Licensee shall implement the restoration measures as described in PG&E's certification application, as modified by the below.

- Minimize Ground Disturbance (Section 2.4, Bullet 15): Ground disturbance and vegetation removal shall not exceed the minimum amount necessary to complete work at the site. Bank stabilization and revegetation shall be implemented to ensure bare soil is not left exposed. Where bank soils require stabilization, coir (coconut fiber) fabric soil stabilization matting shall be used, and native vegetation shall be established using a combination of topsoil, seeding, live stakes, tubelings (young seedling trees or bushes grown initially in tubes), or bare root plantings.
- Site Clean-Up (Section 2.4, Bullet 17): Following Project completion, all construction materials, spoils, or other debris shall be removed from the Project area.
- Mitigation Planting (Section E.4.5.3, Bullet 4): If avoidance of special-status plants or sensitive natural communities is not possible, mitigation procedures (e.g., seed collection, transplantation, mitigation ratios, location, timing, and monitoring) shall be determined in consultation with USFWS, CDFW and State Water Board staff. The location of any mitigation plantings shall be recorded using GPS coordinates to enable location of the special-status plant species or sensitive natural communities after the required monitoring period is complete.
- Revegetation (Section E.4.5.3, Bullet 5): All areas where vegetation, including non-native communities, are permanently removed during Project implementation shall be re-vegetated with a combination of native seed mixtures, live stakes, tubelings, or bare root plantings appropriate for the habitat types present in the Project area. A monitoring period of at least three years of the revegetated areas shall occur to ensure establishment of plantings and restoration of riparian habitat. If during monitoring, revegetated areas have not established and bare soils are exposed with the potential to discharge to South Fork Battle Creek, the Licensee shall conduct additional plantings with native seed mixtures, live stakes, tubelings, or bare root plantings. Following three years of monitoring, the Licensee shall provide the Deputy Director with a summary of the revegetation efforts that includes photo documentation of the initial post-Project conditions and three years following Project revegetation conditions. The summary shall include identification of any problem areas and recommendations and monitoring that the Licensee plans to implement to address the problem areas. If no problem areas exist, the Licensee may submit this summary as part of the Project Completion Report described and required per Condition 8. The Deputy Director may require additional actions in response to the summary or other information in the record.

Any changes to this condition shall be approved by the Deputy Director prior to implementation. The Deputy Director may require modifications as part of any such approval. The Licensee shall file any Deputy Director-approved updates, along with any required modifications, with FERC and the USACE. The Licensee shall implement the updates to the updated measures upon receipt of all required approvals.

CONDITION 8. Reporting

Every 60 days following initiation of Project activities and throughout Project activities, the Licensee shall submit Project Progress Activity Reports (Progress Reports) to the Division of Water Rights Water Quality Certification Program Manager. The Progress Reports shall include:

- A summary of Project activities performed;
- Documentation of compliance with each condition of this certification and details of any failure to meet the certification requirements;
- Summary of pre-construction surveys for aquatic resources, including any relocated or fenced-off aquatic species or sensitive habitat;
- Details of Project-related adverse impacts to beneficial uses, if applicable; and
- Any anticipated Project implementation activities (e.g., construction, dewatering, or diversion) differing from those described in the certification application or required by this certification.

The Licensee may request consultation regarding the need for development and implementation of additional BMPs for water quality protection or approval of additional site-specific construction measures as part of a Progress Report or as part of a separate request if more immediate action is needed to protect water quality.

Unless the timeline is otherwise modified by the Deputy Director, within four years of Project completion, the Licensee shall provide the Deputy Director with a Project Completion Report that comprehensively summarizes the first three bullets from the list above, along with includes the following:

- Post Construction Restoration Reporting that: (1) documents revegetation efforts (Condition 7) and final revegetation site conditions; (2) documents river channel conditions to ensure the Project area reflects a natural condition and is not contributing to excess erosion; and (3) ensure no fish barriers have formed in the Project area as a result of Inskip Diversion Dam removal. The report shall include site photos taken under a variety of flow conditions including high winter flows (which shall include at least one bank full event), and summer low flows.

The Licensee shall provide the Project Completion Report to the USFWS, NMFS, CDFW, USACE, and FERC. The Licensee shall provide any additional information or clarification requested by the Deputy Director related to a Progress Report or the Project

Completion Report. Upon request from State Water Board staff, the Licensee shall meet with staff to discuss a Progress Report or the Project Completion Report.
The Deputy Director may require the Licensee to implement corrective actions or approve additional measures proposed by the Licensee in response to the information provided in a Progress Report, a request for consultation, new information in the record, or approval of additional measures to protect water quality and beneficial uses.

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CONDITION 9. 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 10. This certification does not authorize any act which results in the take 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 11. This certification shall not be construed as replacement or substitution for any necessary federal, state, and local approvals. The Licensees are 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 12. 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 13. Nothing in this certification shall be construed as State Water Board approval of the validity of any water rights, including pre-1914 or riparian 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 14. This certification is subject to modification or revocation upon administrative or judicial review, including but not limited to review and amendment

pursuant to Water Code section 13330 and California Code of Regulations, title 23, division 3, chapter 28, article 6 (commencing with section 3867).

CONDITION 15. 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 16. This certification is conditioned upon total payment of any fee required under California Code of Regulations, title 23, division 3, chapter 28.

CONDITION 17. Notwithstanding any more specific provision of this certification, any plan or report developed as a condition of this certification requires review and 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 plan, proposal, 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. Notwithstanding any other condition of this certification, 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 15 days prior to the deadline. The Licensee shall not implement any plan, proposal, or report until after the applicable State Water Board approval and any other necessary regulatory approvals.

CONDITION 18. In the event of any violation or threatened violation of the conditions of this certification, including if monitoring results indicate that Project activities could violate water quality objectives or impair beneficial uses, 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 or threatened violation of the conditions of this certification, the Licensee shall, by a deadline required by the Deputy Director, submit a plan that documents why the violation occurred and steps the Licensee will implement to address the violation. The Licensee shall implement the plan upon approval from the Deputy Director, and the Deputy Director may require modifications as part of any approval.

CONDITION 19. 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.

CONDITION 20. This certification is contingent on compliance with all applicable requirements of the Central Valley Basin Plan and *Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary.*

CONDITION 21. Unless otherwise specified by conditions in this certification, Project activities shall be conducted in a manner consistent with all water quality standards and implementation plans adopted or approved pursuant to the Porter-Cologne Water Quality Control Act or section 303 of the Clean Water Act. The Licensee shall take all reasonable measures to protect the beneficial uses of waters of the state, including South Fork Battle Creek.

CONDITION 22. 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 23. Upon request, a construction schedule shall be provided to State Water Board and Central Valley Regional Water Board staff. The Licensee shall provide State Water Board and Central Valley Regional Water Board staff access to Project sites to document compliance with this certification.

CONDITION 24. A copy of this certification shall be provided to any contractors and subcontractors conducting Project-related work, and copies shall remain in their possession at the Project site. The Licensee shall be responsible for work conducted by their contractors, subcontractors, or other persons conducting Project-related work.

CONDITION 25. The Licensee shall use analytical methods approved by California's Environmental Laboratory Accreditation Program, where such methods are available. Samples that require laboratory analysis shall be analyzed by Environmental Lab Accreditation Program-certified laboratories.

CONDITION 26. 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 27. Certification that the Project will be protective of the state and federal water quality standards and other appropriate requirements of state law is dependent upon the conditions and limitations imposed by this certification, however, to ensure the validity of this certification upon any challenge that is not addressed by another condition of this certification, the provisions of this certification are severable. Upon remand from determination on administrative or judicial review that a provision of this certification is invalid or affects the validity of the certification the State Water Board may adopt an alternative term that addresses the water quality issue while avoiding the invalidity.

Appendix E: Literature Cited

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Appendix F: List of Preparers

Rebecca Martin – environmental biologist: Project Coordinator, geology and soils, vegetation resources, wildlife resources, threatened and endangered species, recreation resources, cultural and historic resources and land use and aesthetic resources (M.S. Biology, B.S. Environmental Earth Science).

Jeffrey V. Ojala – fish biologist: water quantity, water quality, aquatic resources, threatened and endangered species, and environmental justice (M.S. Fisheries and Wildlife Conservation, B.S. Biology).