ORIGINAL

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
West Coast Region
650 Capitol Mall, Suite 5-100
Sacramento, CA 95814-4700

JAN 10 2014

In response refer to:
2013/9623

Honorable Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, D.C. 20426

Subject: Project No. 1992-003-California. Fire Mountain Lodge Hydroelectric Project

Dear Secretary Bose:

This is in response to your letter of April 15, 2013, requesting the initiation of consultation under section 7 of the Endangered Species Act (ESA) and concurrence from NOAA's National Marine Fisheries Service (NMFS) that the Federal Energy and Regulatory Commission's (FERC) proposed relicensing for the Fire Mountain Lodge (Project), located on Fern Springs, in Tehama County, California, may affect but is not likely to adversely affect federally listed threatened Central Valley (CV) spring-run Chinook salmon (*Oncorhynchus tshawytscha*) evolutionarily significant unit (ESU), threatened California CV (CCV) steelhead (*O. tshawytscha*) distinct population segment (DPS) (*O. mykiss*) and their respective designated critical habitats on Deer Creek, in accordance with section 7 of the ESA of 1973, as amended (16 U.S.C. 1531 *et seq.*). This letter also serves as consultation under the authority of, and in accordance with, the provisions of the Fish and Wildlife Coordination Act of 1934 (FWCA), as amended.

This letter underwent pre-dissemination review using standards for utility, integrity, and objectivity in compliance with applicable guidelines issued under the Data Quality Act (section 515 of the Treasury and General Government Appropriations Act for Fiscal Year 2001, Public Law 106-554). The concurrence letter will be available through NMFS' Public Consultation Tracking at https://pcts.nmfs.noaa.gov. A complete record of this consultation is on file at the California Central Valley Office of NMFS.

Project Location

The Project is a water retention and power generation structure located on an Unnamed Creek (referred to as "Fern Springs Creek"), which is a tributary to Gurnsey Creek. Gurnsey Creek is a tributary to Deer Creek, and is located in Tehama County, California. The Project's facilities lie approximately 11 miles upstream of Deer Creek, at approximately 4,700 feet (ft) in the Sierra Nevada Mountains, about 14 miles west of the town of Chester, California. The Project services the Fire Mountain Lodge, a private resort adjacent to the Lassen National Forest (LNF).

Project Background

On April 25, 2008, Ken Willis (Applicant) applied to FERC for a subsequent license to operate and maintain the 60-kilowatt (kW) Project.

Prior to April 25, 2008, before filing the license application, Ken Willis conducted pre-filing consultation under FERC's traditional hydro licensing process.

On June 11, 2008, FERC's Division of Dam Safety and Inspections ordered the applicant to submit a plan for the design and construction of this new spillway that could pass a 100-year flood, calculated to be 500 cubic feet per second (cfs).

On June 14, 2010 and September 13, 2010, the applicant submitted plans to construct an a 24-foot-long, concrete-lined, trapezoidal-shaped, open-channel spillway with a 13-foot-wide bottom width and 2:1 horizontal to vertical sloping sides.

On September 27, 2010 the FERC's Division of Dam Safety and Inspections approved the applicant's design and construction plans for this spillway.

June 22, 2011, NMFS submitted three Section 10(j) Recommendations to FERC for the Project. FERC accepted one of the recommendations, and the remaining recommendations were adapted as part of 4(e) measures that were submitted by the U.S. Forest Service (USFS).

On December 6, 2012, the California State Water Resources Control Board (SWRCB) filed a 401 water quality certification for the Project that included the dam repairs required by FERC.

In July of 2013, the SWRCB issued a Mitigated Negative Declaration on September 26, 2013.

Project Description and Background

The Applicant diverts water for domestic use and power generation for the Fire Mountain Lodge. The Project's FERC license expired on April 30, 2010. The Project currently operates under annual licenses as the Project undergoes relicensing by FERC. The Applicant proposes to continue to operate the Project as a run-of-the-river system, as it has been operated historically, with proposed modifications and the required improvements to the dam.

The Project generates power from impounded water that originates from Fern Springs and an unnamed spring. For 8-10 months of the year the licensee obstructs flows that travel through pipes in the dam, from the unnamed springs. The Project comprises two sequential components: (1) relicensing of the existing Project; and (2) implementation of dam safety repairs required by FERC's Division of Dam Safety and Inspections. The dam safety repairs are being required by FERC because, occasionally in the past, the pipes (used to pass water through the dam to the penstock) became plugged with sediment and the dam overtopped eroding the crest and partially washing out the dam. Overtopping and dam failure events have led to uncontrolled flows and earthen dam material being carried to Fern Springs Creek that is below the dam. Sediment from these events can potentially be transported down to Gurnsey Creek, a tributary to Deer Creek. Deer Creek supports listed anadromous fish populations, namely CV spring-run Chinook salmon

and CCV steelhead and their respective critical habitats. Because of the risk for overtopping at the Project's dam, FERC's Division of Dam Safety and Inspections is requiring the licensee to construct a new emergency spillway to prevent future dam breaches and to protect against sediment releases into Fern Springs Creek. Construction on the existing dam would involve repairs to the dam and outfall, and installation of an open channel spillway.

The existing Project consists of: (1) a 265-foot long by 29-foot high earth and concrete filled dam; (2) a 0.8-acre reservoir; (3) a 38-inch intake tower; (4) a 1,540-foot long penstock; (5) a powerhouse with an installed capacity of 60-kilowatts; (6) a 1,000-foot long transmission line; and (7) associated facilities. The power generated by the Project is used for commercial and residential purposes, solely for the owners of the Fire Mountain Lodge, a self-provider of electricity. The Project is estimated to generate an average of 262,800 kilowatt hours (kWh) annually. The Applicant holds Water Rights License No. 4976, issued by the SWRCB's Division of Water Rights, for the diversion and use of water. The license allows the owner to use up to, but not exceed, 3.0 cubic feet per second (cfs) of water from Fern Springs for power and domestic use year round.

Fern Spring Creek, below the dam, does not support anadromous fish because of a natural barrier 11 miles downstream in Gurnsey Creek. Fern Springs is characterized by a series of pools and riffles with plunge pools. The stream substrate below the dam is composed of cobble, large rock and boulders. The stream gradient below the dam has a 5.4 percent slope. Very few areas of fine particles such as silts and sands are found in the streambed due to the high gradient of the stream. Under normal conditions the stream is 3 to 10 feet wide; under bank full conditions the stream is 40 to 50 feet wide. Riparian areas of Fern Creek are highly vegetated.

Under section 10(j) of the Federal Power Act (FPA), each hydroelectric license issued by FERC must include conditions based on recommendations provided by federal and state fish and wildlife agencies for the protection, mitigation, or enhancement of fish and wildlife resources affected by the Project. FERC is required to include these conditions in the license, unless it determines that they are inconsistent with the purpose and requirements of the FPA or other applicable law. Before rejecting or modifying an agency recommendation, the Commission is required to resolve any such inconsistency with the agency, giving due weight to the recommendations, expertise, and statutory responsibilities of such agency. NMFS timely filed, on June 22, 2011, recommendations under section 10(j) of the FPA. FERC did not adopt these recommendations. However, 4(e) conditions submitted by the U.S. Forest Service were adopted and contained similar pertinent recommendations for protection of listed anadromous fish species. The 4(e) recommendations FERC included as part of the Project license to reduce impacts to aquatic health and to listed fish downstream of the Project, are described as follows:

(1) Prevention and minimization measures have been incorporated into the proposed Project by FERC's Division of Dam Safety, as described above, with the required new dam structures[1] to prevent increases in sedimentation from dam failures.

[1] The required emergency spillway will function in conjunction with the two existing outflow pipes. The applicant-designed emergency spillway is designed for at least a 100-year flood (500 cfs). In addition to the new spillway, the applicant will install trash gates over the entrances of the two existing primary spillways to ensure that these outlets do not clog with debris.

(2) Collect stream-flow information at four locations: (1) in each spring contributing to the Project; (2) below the Project dam; (3) as measured within the Project penstock; and (4) as measured within the domestic diversion from Fern Springs. Flow is to be measured by the installation of a Parshall (or similar measuring) type flume. This condition also specifies that the licensee shall submit documents showing water rights for Project facilities.

(3) Release into Fern Springs Creek (between the Project dam and Gurnsey Creek confluence): (1) all flows that exceed the licensee's state water right (presumed to be 3 cfs); and (2) in dry years, release sufficient flows, estimated to be one cfs, estimated by SWRCB, to provide connectivity of water between the Project dam and the confluence with Gurnsey Creek such that Gurnsey Creek, which flows into the Deer Creek, continues to provide hydraulic connectivity.

a. Following two years of flow data collection, jurisdictional resource agencies will perform a review of minimum stream flow requirements to adaptively manage future minimum stream flow requirements.

(4) Implement the following measures during ground or aquatic disturbing activities:

a. Install protective fences around sensitive habitats prior to ground disturbing activities to reduce impacts and sedimentation.

b. Complete pre-construction surveys within 30 days of ground disturbing activities to identify and relocate USFS aquatic special status species.

i. Perform any additional mitigation measures as determined necessary by the USFS to protect aquatic integrity and the critical habitat of listed salmonids in the Deer Creek Watershed.

(5) Adhere to Best Management Practices (BMPs) when implementing ground-disturbing activities, to prevent or minimize erosion of native soils for general resource protection, as well as to avoid or minimize introduction of that material into tributaries that feed into anadromous habitat in Deer Creek, downstream of the Project.

Project Operations

In the reservoir, near the right abutment of the dam, a 38-inch-diameter intake tower, with an inlet approximately eight feet below the crest of the dam, sends water to a 1,540-foot-long penstock that transmits water to a powerhouse containing a pelton-wheel turbine, with an installed capacity of 60 kilowatts (kW). Water leaving the powerhouse travels via a 90-foot-long and 4-foot-wide open channel to Gurnsey Creek. Two outflow pipes (42-inch-diameter and 24-inch-diameter), located adjacent to one another, approximately three feet below the crest of the dam on its left abutment, transmit flow to the approximately 1,500-foot-long bypassed reach of Fern Springs Creek. A third 16-inch-diameter outflow pipe, with an inlet positioned at the bottom of the reservoir, exits the dam on the right abutment. During operation, this outflow pipe is plugged in order to fill the reservoir. The applicant's new required dam will include a 24-foot-

long, concrete-lined, trapezoidal-shaped, open-channel spillway with a 13-foot-wide bottom width and 2:1 horizontal to vertical sloping sides. The crest of the emergency spillway will lie at elevation 4,763.53 ft and the top of the spillway channel will lie at 4,667 ft. The emergency spillway will connect to a 24-foot-long, 10-foot-wide ramp spillway that will carry flow past the toe of the dam to the bypassed reach of Fern Springs Creek.

ESA Section 7 Consultation

In order for NMFS to consider a project as being not likely to adversely affect the listed species or their designated critical habitat, effects must be discountable, insignificant, or completely beneficial. Beneficial effects are contemporaneous positive effects without any adverse effects to the species. Insignificant effects relate to the size of the impact and should never reach the scale where take occurs. Discountable effects are those extremely unlikely to occur. Based on best judgment, a person should not: (1) be able to meaningfully measure, detect, or evaluate insignificant effects; or (2) expect discountable effects to occur.

Direct effects

Direct effects associated with the Project to listed anadromous fish, namely CV spring-run Chinook salmon and CCV steelhead, will not occur from the Project because all of the listed activities for the Project will be implemented 11 miles from the confluence with the Deer Creek channel, where the above named listed fish species and their critical habitats occur. Therefore, there will be no direct effects to the above listed fish and their critical habitats from the Project.

Indirect effects

Increased levels of turbidity can affect salmonid species through various changes to their physiology and physical functions. There are potential indirect effects from the Project due to previous sedimentation problems at the dam site that have been caused by the inadequate spillways that overtop and breach the dam. The increases in sediment as a result of past Project failures, had the potential to travel downstream to Deer Creek, where listed fish, CV spring-run Chinook salmon and CCV steelhead and their critical habitats occur. To alleviate this re-occurring sedimentation issue, FERC's Division of Dam Safety and Inspections is requiring the licensee to construct a new emergency spillway and to install debris screens over the two existing primary spillways so that they do not become clogged.

The required emergency spillway will prevent the overtopping of the dam during high water events and eliminate the associated scouring, erosion and sedimentation. A concrete apron will carry flow from the emergency spillway to the stream channel. The 100 year flood flow at the site is computed to be 500 cfs. The new emergency spillway would be capable of passing 700 cfs without overtopping. In addition to the ordered emergency spillway, there are two steel overflow pipes passing through the dam that function as primary spillways capable of passing about 200 cfs of flow. Operation of the spillway and the improvements to the overflow pipes should eliminate the erosion and sedimentation issues caused by overtopping.

With the new emergency spillway in place, the previous sedimentation problem caused by over topping, should be resolved, and therefore, increased sedimentation above baseline levels would not occur as a result of Project operations. Therefore, the effects from increased sedimentation from the Project, that would potentially affect listed anadromous fish species 11 miles downstream in Deer Creek, would be considered discountable since they would be unlikely to occur.

The other potential indirect effect from the Project would be from flow reduction as a result of Project operations. During dry periods, when inflow to the Project is less than the flow required for power generation, operation of the Project could result in a decrease in elevation of the reservoir to a level below the existing overflow pipes that provide flow to the bypassed reach of Fern Springs Creek. The reduction or elimination of flows in the bypassed reach could adversely affect aquatic species and their habitats in Fern Creek and potentially cause effects downstream to Gurnsey Creek and subsequently to Deer Creek. Operation of the Project reduces flows in the bypassed reach, particularly in dry water years where inflow to the Project is less than 3 cfs. Releasing or providing a minimum instream flow, as will be required by FERC, especially in dry years, in the bypassed reach would maintain biological connectivity and function.

Based on our review of the material provided and the best scientific and commercial information currently available, NMFS concurs with FERC's determination that the Project is not likely to adversely affect these listed salmonids and their critical habitat. The proposed Project impacts to CV spring-run Chinook salmon and CCV steelhead and their critical habitat are insignificant and/or discountable.

NMFS reached this determination based on the following Project elements:

(1) The new dam structures, as required by FERC's Division of Dam Safety, will prevent increases in sedimentation from occurring, and prevent future dam failures;

(2) Stream flow information will be collected annually in the spring to ensure that the flow in Fern Springs remains sufficient for the hydrology of the watershed to persist such that downstream flow into Gurnsey and Deer Creek is supplemented with the minimum requirements by the USFS's 4(e) recommendations of at least 1 cfs in dry years, and 3 cfs in all other years; and

Section 7(a)(1) of the ESA directs Federal agencies to utilize their authorities to further the purposes of the ESA by carrying out conservation programs for the benefit of threatened and endangered species. 50 CFR §402.02 allows NMFS to propose conservation recommendations, as discretionary activities intended to minimize or avoid adverse effects of a proposed project on listed species or critical habitat. The following conservation recommendation is included as part of this authority:

(1) Integrated conservation measures and standard best management practices (BMPs) should be included in the Project that will control for dust, erosion, sedimentation, turbidity, and water quality during construction activities. Implementation of the construction BMPs and conservation measures should reduce Project-related construction impacts to the waterways in the action area to an insignificant level and should not result

in introduction of that material into tributaries that feed into anadromous habitat in Deer Creek, downstream of the Project.

This concludes informal ESA consultation for the FERC Fire Mountain Lodge Project No. 1992-003. This letter does not provide incidental take authorization pursuant to section 7(b)(4) and section 7(o)(2) of the ESA. Re-initiation of the consultation is required where discretionary Federal agency involvement or control over the proposed project has been retained (or is authorized by law), and if: (1) new information reveals effects of the proposed project that may affect listed species or critical habitat in a manner or to an extent not considered; (2) the identified action is subsequently modified in a manner that causes an effect to a listed species or critical habitat not previously considered; or (3) a new species is listed or critical habitat designated that may be affected by the proposed Project.

FWCA

The purpose of the FWCA is to ensure that wildlife conservation receives equal consideration, and is coordinated with other aspects of water resources development (16 U.S.C. 661). The FWCA establishes a consultation requirement for Federal departments and agencies that undertake any action that proposes to modify any stream or other body of water for any purpose, including navigation and drainage (16 U.S.C. 662(a)). Consistent with this consultation requirement, NMFS provides recommendations and comments to Federal action agencies for the purpose of conserving fish and wildlife resources. The FWCA provides the opportunity to offer recommendations for the conservation of species and habitats beyond those currently managed under the ESA and MSA. Because of the measures incorporated into the proposedPproject to avoid or minimize environmental impacts to aquatic habitat within the action area, NMFS has no additional FWCA comments to provide.

Please contact Gretchen Umlauf at (916) 930-5646, or via e-mail at Gretchen.Umlauf@noaa.gov if you have any questions or require additional information concerning this project.

Sincerely,

for Maria C. Rea
Assistant Regional Administrator
California Central Valley Area Office

cc: Copy to File ARN # 151422SWR2013SA00149

Document Content(s)