



Amended Application for New License
Major Project – Existing Dam

Drought Management Plan

Security Level: Public

Yuba River Development Project
FERC Project No. 2246

June 2017

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None.

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GLOSSARY - DEFINITION OF TERMS, ACRONYMS AND ABBREVIATIONS

Term	Definition
Cal Fish and Wildlife	California Department of Fish and Wildlife
FERC	Federal Energy Regulatory Commission
FLA	Final License Application
Forest Service	United States Department of Agriculture, Forest Service
NFS	National Forest System
NMFS	National Marine Fisheries Service
Plan	Drought Management Plan
PNF	Plumas National Forest
Project	Yuba River Development Project, FERC Project No. 2246
SWRCB	State Water Resources Control Board
TNF	Tahoe National Forest
USFWS	United States Fish and Wildlife Service
WY	Water Year
YCWA	Yuba County Water Agency

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SECTION 1.0

INTRODUCTION

In April 2014, the Yuba County Water Agency (YCWA), pursuant to Section (§) 5.18 of Title 18 of the Code of Federal Regulations (C.F.R.), filed with the Federal Energy Regulatory Commission (FERC) an Application for New License for Major Project – Existing Dam - for YCWA’s 361.9 megawatt Yuba River Development Project, FERC No. 2246 (Project). In June 2017, YCWA amended its April 2014 Application for a New License (Amended FLA). The initial license for the Project was issued by the Federal Power Commission (FERC’s predecessor) to YCWA on May 16, 1963, effective on May 1, 1963. The Federal Power Commission’s May 6, 1966, Order Amending License changed the license’s effective date to May 1, 1966, for a term ending on April 30, 2016.

YCWA included this Drought Management Plan (Plan) in its June 2017 Amended FLA.

The United States Department of Agriculture, Forest Service’s (Forest Service) Federal Power Act Section 4(e) authority only applies in this Plan to Project facilities on National Forest System (NFS) lands, and the United States Army, Corps of Engineers’ (USACE) FPA § 4(e) authority only applies in this Plan to Project facilities on federal land administered by the USACE. The Forest Service administers the Plumas National Forest (PNF) in conformance with the PNF Land and Resource Management Plan (USDA Forest Service 1988), as subsequently amended, and administers the Tahoe National Forest (TNF) in conformance with TNF Land and Resource Management Plan (USDA Forest Service 1990), as subsequently amended. When the TNF or PNF Forest Plan revisions occur, those revised plans will supersede the 1990 TNF and 1988 PNF plans.

1.1 Background

1.1.1 Yuba River Development Project

The Project is located in Yuba, Sierra and Nevada counties, California, on the Yuba River, the North Yuba River and the Middle Yuba River, and on Oregon Creek, a tributary to the Middle Yuba River. Major Project facilities, which range in elevation from 280 feet to 2,049 feet, include: 1) New Bullards Bar Dam and Reservoir; 2) Our House and Log Cabin diversion dams; 3) Lohman Ridge and Camptonville diversion tunnels; 4) New Colgate and Narrows 2 power tunnels and penstocks; 5) New Colgate, New Bullards Minimum Flow and Narrows 2 powerhouses; and 6) appurtenant facilities and features (e.g., administrative buildings, switchyards, roads, trails and gages). The existing Project does not include any aboveground open water conduits (e.g., canals or flumes) or any transmission lines.

In addition, The Project includes 16 developed recreation facilities. These include: 1) Hornswoggle Group Campground; 2) Schoolhouse Campground; 3) Dark Day Campground; 4)

Cottage Creek Campground;¹ 5) Garden Point Boat-in Campground; 6) Madrone Cove Boat-in Campground; 7) Frenchy Point Boat-in Campground; 8) Dark Day Picnic Area; 9) Sunset Vista Point; 10) Dam Overlook; 11) Moran Road Day Use Area; 12) Cottage Creek Boat Launch;² 13) Dark Day Boat Launch, including the Overflow Parking Area; 14) Schoolhouse Trail; 15) Bullards Bar Trail; and 16) floating comfort stations.³ All of the recreation facilities are located on NFS land, with the exception of the Dam Overlook, Cottage Creek Boat Launch and small portions of the Bullards Bar Trail, which are located on land owned by YCWA. All of the developed recreation facilities are located within the existing FERC Project Boundary, except for a few short segments of the Bullards Bar Trail to the east of the Dark Day Boat Launch. In addition, the Project includes two undeveloped recreation sites at Our House and Log Cabin diversion dams, both located on NFS lands and within the existing FERC Project Boundary.

Figure 1.1-1 shows the Project Vicinity,⁴ proposed Project, and proposed FERC Project Boundary.⁵

¹ Cottage Creek Campground was burned in 2010 and has not been rebuilt. YCWA is in discussions with the Forest Service regarding rebuilding the burned campground.

² Emerald Cove Marina provides visitor services at Cottage Creek Boat Launch, including houseboat and boat rentals, boat slips and moorings, fuel and a general store. The marina is operated under a lease from YCWA by a private company.

³ The Project recreation facilities included one campground that is no longer part of the Project. Burnt Bridge Campground was closed initially by the Forest Service in 1979 due to low use levels. FERC, in an August 19, 1993 Order, which approved YCWA's Revised Recreation Plan, directed YCWA to remove all improvements and restore the Burnt Bridge Campground to the condition it was in prior to development of the facility. YCWA consulted with the Forest Service and all that remains of Burnt Bridge Campground today is the circulation road and vehicle spurs; all other facilities were removed.

⁴ For the purpose of this Plan, "Project Vicinity" refers to the area surrounding the proposed Project on the order of United States Geological Survey (USGS) 1:24,000 quadrangles.

⁵ The FERC Project Boundary is the area that YCWA uses for normal Project operations and maintenance. The Boundary is shown in Exhibit G of YCWA's Amended FLA, and may be changed by FERC with cause from time to time during the term of the new license.

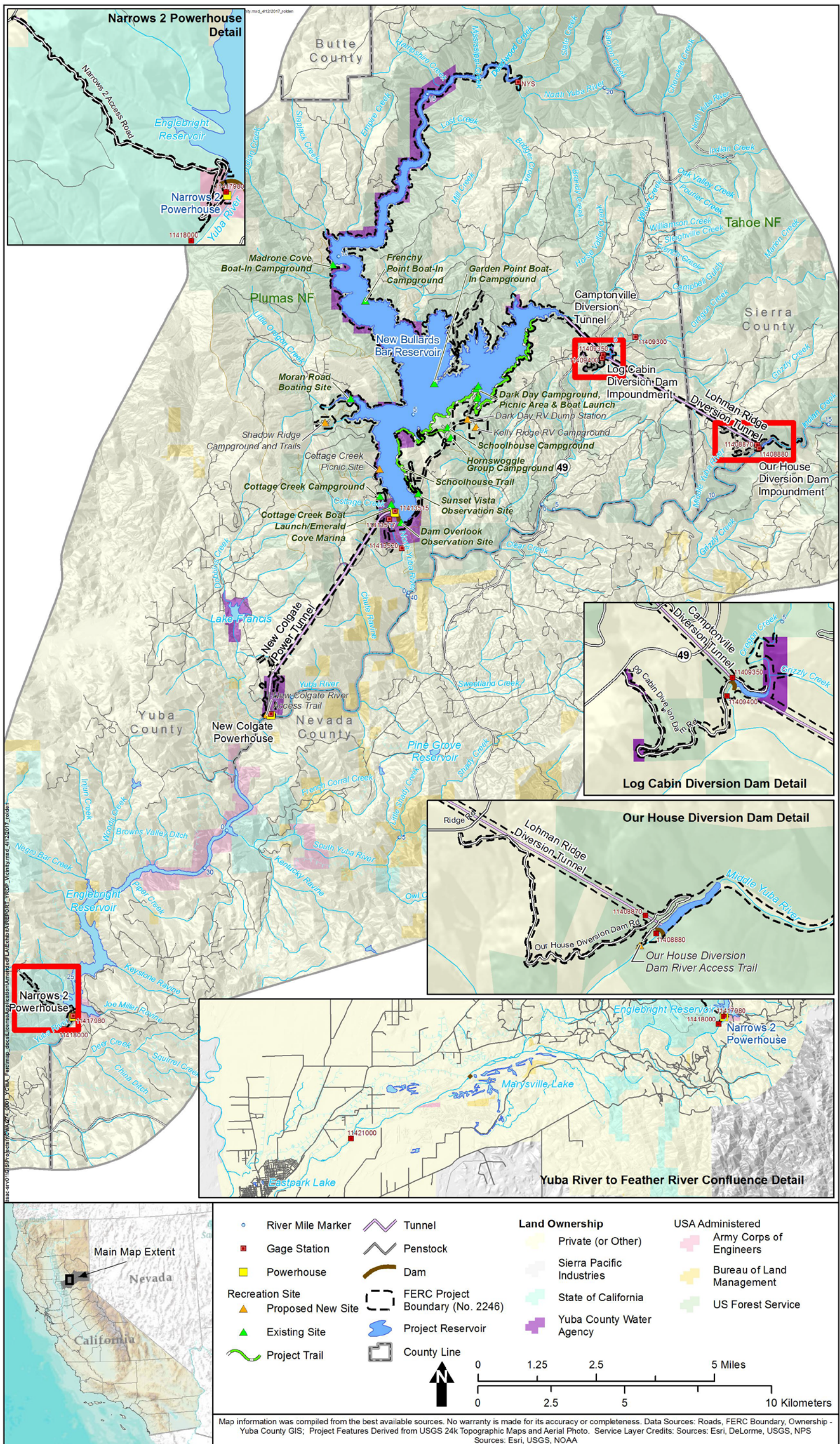


Figure 1.1-1. Yuba County Water Agency's Yuba River Development Project and Project Vicinity.

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1.2 Purpose of the Drought Management Plan

The purpose of this Plan is to facilitate approval of variances to license conditions so that drought management measures that require a variance to license conditions may be implemented in a timely, efficient and effective manner. It is important to recognize that this Plan does not pertain to YCWA's actions, which are consistent with the FERC license (i.e., actions that do not require a variance to license conditions), related to droughts.

YCWA will coordinate, to the extent appropriate, the efforts required under this Plan with other Project resource efforts, including implementation of other resource management plans and measures included in the new license.

1.3 Objectives of the Drought Management Plan

The objectives of the Plan are to describe: 1) the management options that would require a variance to license conditions that YCWA would consider to address droughts when they occur; 2) decision paths regarding which of those management options YCWA might choose to implement for the specific drought; and 3) a process by which those drought management options would be implemented for specific drought conditions as defined in Section 2.0 below.

1.4 Contents of the Drought Management Plan

This Plan includes the following:

- Section 1.0. Introduction. This section includes introductory information, including the purpose and goals of the Plan.
- Section 2.0. Methods for Minimization of Drought Impacts during Continued Project Operation and Maintenance. This section describes the methods for minimization of site-specific drought impacts during continued Project operation and maintenance (O&M), including potential FERC license conditions or proposed management measures that may need to be temporarily modified, and the process to be followed to efficiently determine and gain approval for any necessary modifications.
- Section 3.0. Reporting, Consultation and Plan Revisions. This section describes reporting, consultation and Plan revisions.
- Section 4.0. References Cited. This section lists references cited in this Plan.

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SECTION 2.0

METHODS FOR MINIMIZATION OF DROUGHT IMPACTS DURING CONTINUED PROJECT OPERATION AND MAINTENANCE

2.1 Conditions Under Which the Plan May Be Implemented

For the purpose of this Plan, a drought is considered to occur under any one of the following conditions:

- The Governor of State of California declares a drought emergency for the State or areas of the Yuba River basin
- The State Water Resources Control Board (SWRCB) enacts specific regulations for the purpose of managing drought conditions in the State or the Yuba River basin
- Based on May of the previous Water Year (WY) or February of the current WY, Schedule 6 or Conference Years, as described in YCWA's Proposed Condition WR3, occur
- In the fall/early winter (November – January) following a very dry WY where end-of-September storage in New Bullards Bar Reservoir is less than 450,000 ac-ft
- In the January to March period snowpack development to date is below 60 percent of average

If any of the above conditions occur, YCWA may implement this Plan. Key months for consideration of drought management actions are the months of February, March, April and May. Drought years typically have less than forecast runoff, which can result in a higher flow schedule than compared to the actual runoff. Perfect knowledge of future runoff could result in a lower flow schedule during these winter months. YCWA will give consideration to recommending drought management actions earlier in the rainfall year. However, YCWA does not need to implement this Plan for drought management operations of the Project that are consistent with the license (i.e., do not require a variance to conditions in the FERC license).

Implementation of this Plan is a discretionary action by YCWA; that is, YCWA is not compelled to implement drought management options under this Plan if one or more of the above conditions occur.

2.2 Drought Management Options

Table 2.2-1 provides a list of some drought management options that may require a variance to one or more FERC license conditions.

Table 2.2-1. Drought management options that may require a variance to one or more FERC license conditions.

Drought Management Option	Conditions in FERC License For Which a Variance May be Needed to Implement the Drought Management Option
Relief from Proposed Condition AR3 minimum flow requirements when these requirements prevent appropriate management of water supplies during critical drought conditions	YCWA’s Proposed Condition AR3 for minimum flow requirements downstream of Englebright Dam
Relief from Proposed Condition AR9 Flow reduction criteria in tables 1 and 2 when these criteria are prohibiting flow reductions that are necessary to implement the lower water year type dependent required minimum flows	YCWA’s Proposed Condition AR9 for flow fluctuation downstream of Englebright Dam that would prevent any flow reductions specified in Table 1 or Table 2 of this condition
Relief from recession or ramp-down requirements at Log Cabin or Our House and instead compliance with year type dependent required flows.	YCWA’s Proposed Condition AR2 for control of Project spills at Our House Diversion Dam and Log Cabin Diversion Dam
Relief from required minimum pool of water surface elevation 1,730 feet in New Bullards Bar Reservoir and instead draw the reservoir storage below 1,730 feet to not less than 1,650 feet to meet required instream flows and irrigation diversions. This lower elevation is three feet above the crown elevation of the lower penstock intake portal in New Bullards Bar Dam.	YCWA’s Proposed Condition WR5 to maintain a minimum pool in New Bullards Bar Reservoir at elevation 1,730 ft
Relief from recreational flows at Our House Diversion Dam	YCWA Proposed Condition RR3 whitewater boating flow that would require closure of the Lohman Ridge Diversion Tunnel

The list in Table 2.2-1 is not comprehensive because YCWA cannot anticipate at this time every drought management option that may be reasonable to consider for all future droughts and whether these unknown actions may require a variance to one or more license conditions. If YCWA identifies a drought management option that requires a variance in the future and the option is not listed in Table 2.2-1, YCWA may consider that option and implement it under this Plan.

2.3 Selection of Drought Management Options for Specific Droughts

This section describes the decision paths regarding which of the drought management options in Table 2.2-1 YCWA might choose to implement for a specific type of drought. However, as described above, YCWA cannot anticipate at this time every drought management option that may be reasonable to consider for all future droughts or the exigencies that might occur associated with the drought. Therefore, the decision paths described in this section are YCWA’s best estimate at this time and not binding under specific droughts.

Based on the time of year for consideration of drought conditions and potential implementation of one or more drought management options, YCWA will assess available data including current storage in New Bullards Bar Reservoir, watershed snowpack and soil moisture conditions, current and projected operating requirements for instream flows and water supply deliveries, weather forecasts and other project operation limitations.

YCWA will prepare modeling of simulated operations based on projected future hydrologic conditions and Project requirements and determine the probability of not being able to meet all

regulatory, contractual and other requirements as well as irrigation deliveries. This analysis would include an assessment of risk and probability of certain specific drought impacts for the current WY and the following WY.

YCWA will then assess the benefits to Project operation and water supply conditions with one or more of the management options and identify which options will have the greatest water supply benefit and least impact on the environment, if implemented.

YCWA will consult with its biologists and may consult at an early stage with one or more regulatory agencies about potential options.

YCWA will prepare a Specific Drought Management Plan for that drought based on Project operations and hydrologic analysis and based on information from YCWA experts and any informal consultation with regulatory agencies.

2.4 Notification of Drought Concern

If YCWA anticipates that one or more of the conditions in Section 2.1 may occur, by between December 15 and January 30 , or possibly later if conditions are uncertain, YCWA will notify FERC, Forest Service, SWRCB, United States Department of the Interior, Fish and Wildlife Service (USFWS), United States Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service (NMFS) and California Department of Fish and Wildlife (Cal Fish and Wildlife) of YCWA's drought concern (i.e., the conditions described in Section 2.1 may or may not have actually occurred when the notification is made). Notifications may occur via e-mail and will describe the reason for YCWA's drought concern. The notification may include other information, but the purpose of the notification is only to advise the agencies that YCWA may implement this Plan.

If anytime between January 1 and March 30 YCWA's drought concerns abate, YCWA will advise FERC, Forest Service, SWRCB, USFWS, NMFS and Cal Fish and Wildlife that YCWA does not anticipate preparing and requesting approval of a Specific Drought Management Plan for the current condition.

2.5 Distribution of a Specific Drought Management Plan

If YCWA's drought concerns persist (i.e., one or more of the conditions described in Section 2.1 occur) and YCWA proposes to implement one or more of the drought management options that will require a variance to one or more FERC license conditions, by no later than March 15 YCWA will provide to the Forest Service, SWRCB, USFWS, NMFS and Cal Fish and Wildlife a Specific Drought Management Plan for the drought. The plan will include information to support YCWA's proposed variance, including:

- A description of the specific drought conditions as described in Section 2.1 that are triggering implementation of the Plan including, but not limited to:
 - The Governor's or SWRCB's drought declarations or management actions

- Current and anticipated storage in New Bullards Bar Reservoir versus historical averages and ranges
 - Current and anticipated runoff into New Bullards Bar Reservoir and at Smartsville versus historical averages and range
 - Current snowpack versus historical average
 - Current flow in the North Yuba River at Goodyears Bar versus historical average and exceedance
 - Projections of summer/fall water supply and storage conditions following year conditions if dry conditions persist
- The specific drought management options YCWA proposes to implement:
 1. The specific condition(s) in the license for which a variance would be needed and a description of the variance(s)
 2. When the variance would be needed and how long the variance would be in place
 3. Any specific monitoring or reporting YCWA proposes to undertake as part of the variance, including proposed timeframes for monitoring periods and reporting
 - Any approvals needed, besides FERC's, for implementation of the specific drought management plan, and the status of the approvals
 - To the extent necessary to understand the context of the variances to license conditions, the Specific Drought Management Plan will include a description of other actions (i.e., actions in response to the drought that do not require a license variance) YCWA anticipates taking in response to the specific drought conditions, including necessary permit processes associated with the SWRCB water rights decisions, or special Drought Regulations
 - Other information as deemed needed

Since time is of the essence in responding to drought conditions, YCWA will make a good faith effort to obtain comments on its proposed variances from the Forest Service, SWRCB, USFWS, NMFS and Cal Fish and Wildlife as soon as possible, which may include one-on-one discussions with individual agencies, a joint agencies meeting(s), or both.

2.6 Review and Implementation of Specific Drought Management Plan

If the Forest Service, SWRCB's Deputy Director of Water Rights, USFWS, NMFS and Cal Fish and Wildlife agree with YCWA's proposed variance(s) to license conditions as described in the Specific Drought Management Plan, YCWA will file with FERC the plan with documentation of agreement from each agency, and YCWA, upon notifying the FERC by telephone when filing the plan, may begin implementing the specific variances in the Specific Drought Management Plan on the date YCWA files the Specific Drought Management Plan with FERC, if the FERC Director of License Compliance provides approval.

If one or more of the agencies do not agree with YCWA's proposed variance(s) to license conditions as described in the Specific Drought Management Plan, YCWA will file with FERC a revised Specific Drought Management Plan, which addresses as many of the disagreeing agencies' concerns with the proposed variance(s) as possible, with any assenting or dissenting comments regarding the proposed variances and the reasons why dissenting comments regarding the proposed variance(s) can not or should not be addressed in the revised plan. The plan will include documentation of any written comments from the consulted agencies. YCWA will implement the revised variances in the Specific Drought Management Plan as approved by FERC.

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SECTION 3.0

REPORTING, CONSULTATION AND PLAN REVISIONS

3.1 Reporting and Consultation

Each calendar year in which YCWA implements this Plan, YCWA will discuss Plan implementation at the annual agency meeting described in YCWA's Proposed Condition GEN1.

3.2 Plan Revisions

YCWA, in consultation with the Forest Service, SWRCB, USFWS, NMFS and Cal Fish and Wildlife will review, update, and/or revise the Plan, as needed. Any updates to the Plan will be prepared in coordination and consultation with the Forest Service, SWRCB, USFWS, NMFS and Cal Fish and Wildlife. Sixty days will be allowed for the Forest Service, SWRCB, USFWS, NMFS and Cal Fish and Wildlife to provide written comments and recommendations before YCWA files with FERC the updated plan, including relevant documentation of coordination and consultation with the Forest Service, SWRCB, USFWS, NMFS and Cal Fish and Wildlife for FERC's approval. If YCWA does not adopt a particular recommendation by the Forest Service, SWRCB, USFWS, NMFS or Cal Fish and Wildlife, the filing will include the reasons for not doing so, based on Project-specific information. YCWA will implement the Plan as approved by FERC.⁶

⁶ The Plan will not be considered revised until FERC issues its approval.

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SECTION 4.0

REFERENCES CITED

United States Department of Agriculture (USDA), Forest Service (Forest Service). Tahoe National Forest (TNF). 1990. Tahoe National Forest Land and Resource Management Plan. Department of Agriculture. Nevada City, California. 687 pp. and appendices.

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