

## Enclosure 1

### Pit 3, 4, and 5 Revised Preliminary 4(e) Terms and Conditions

To clarify modifications between the October 2002 Preliminary 4(e) Conditions, and these Revised Preliminary 4(e) Conditions, we have included a crosswalk table below.

#### Standard Conditions:

2002 #	2002 Preliminary 4(e) Title	2003 #	2003 Revised Preliminary 4(e) Title	Remarks
1	FS Approval of Final Design	NA	Eliminated	Redundant
2	Approval of Changes After Initial Construction	1	Approval of Changes After Initial Construction	Same, new #
3	Consultation	2	Annual Consultation on Affected National Forest Resources	Modified, new # and title
4	Hazardous Substance Plan	NA	Eliminate	Redundant w/ FERC requirements
5	Maintenance of Improvements	3	Maintenance of Improvements on or Affecting NFSL	Modified with old condition #54, new # & title
6	Safety During Project Construction	NA	Eliminated	Redundant w/ other requirements & Plans
7	Existing Claims	4	Existing Claims on NFSL	Same, new # & title
8	Compliance with Regulations	5	Compliance with Regulations on NFSL	Same, new # & title
9	Protection of United States Property	6	Protection of United States Property	Same, new #
10	Surrender of License or Transfer of Ownership	7	Surrender of License or Transfer of Ownership	Same, new #
11	Self Insurance	8	Self Insurance	Same, new #
12	Water Pollution	NA	Eliminated	Redundant w/ water quality plans, etc.
13	Damage – High hazard	9	Damage to lands of United States – High hazard	Same, new # & title
14	Risks and Hazards	10	Risks and Hazards on NFSL	Same, new # & title
15	Signs	11	Licensee Signs on or affecting NFSL	Same, new # & title
16	Pesticide-Use Restrictions	12	Pesticide-Use Restrictions on NFSL	Same, new # & title
17	Traffic Control During Construction	NA	Eliminated	Redundant w/ other requirements & plans
18	Area Access	13	Access by the United States	Same, new # & title
19	Road Use	NA	Eliminated	Redundant w/ Road Plans
20	Modification of Forest Service Conditions	14	Modification of Forest Service Conditions for Protection of NF Resources	Same, new # & title

**Project Specific Conditions:**

<b>2002 #</b>	<b>2002 Preliminary 4(e) Title</b>	<b>2003 #</b>	<b>2003 Revised Preliminary 4(e) Title</b>	<b>Remarks</b>
21	Minimum Instream Flow Regime	15*	Flow Regime for Affected NFSL	Combines old #21-24 into 1 condition. Flow values NOT* modified until data complete. Other clarifying edits.
22	Maximum Ramping Rate and Up Ramping Analysis	NA	Incorporated into #14 above	See above
23	Dry Year Freshet Flow	NA	Incorporated into #14 above	See above
24	Adaptive Management for Peak Flow Management	NA	Incorporated into #14 above	See above
25	Maximum Lake Britton Drawdown	NA	Eliminated as stand alone condition	Combine with Rec plan as per FERC DEIS
26	Notification & Minimization of Emergency & Planned Mtc Outage Spill Plan	16	Management of Planned Spill Events Affecting NFS Resources	4(e) not modified yet, new # & title
27	Gravel and Large Woody Debris Supply Management Program	17	Gravel and Woody Debris Programs to Benefit NFS Resources	
28	Reservoir and Afterbay Dredging	18	Reservoir and Afterbay Dredging Affecting NFSL	Same, new # & title
29	Water Quality Plan	19	Water Temperature Monitoring & Maintenance Plan For Affected NFSL	Modified for consistency w/ FERC DEIS, new # & title
30	Fish and Benthic Macroinvertebrate Monitoring of Project Reaches and Reservoirs	20*	Land & Habitat Management Plans (LHMP) for Mitigating Project Affects to NFS Resources	Modified for consistency w/ FERC DEIS, consolidates many plans into one, new # & title
31	Amphibian Monitoring Plan	NA	Incorporated into 2003: #20 above	See above
32	Vegetation Management Plan	NA	Incorporated into #20 above with modifications for FYLF	See above
33	Noxious Weed Management Plan	NA	Incorporated into #20 above	See above
34	Bald Eagle Management Plan	NA	Incorporated into #20 above	See above
35	Wildlife Mitigation and Monitoring Plan	NA	Incorporated into #20 above	See above
36	Protection of Threatened, Endangered, Proposed for Listing, & Sensitive Spp Plan	NA	Incorporated into #20 above	See above
37	Cultural Resources Management Plan	NA	Incorporated into #20 above and modified	See above, LE/Patrols added
38	Recreation Coordination and Review	NA	Incorporated into #20 above	See above
39	Recreation Survey	NA	Incorporated into #20above	See above

<b>2002 #</b>	<b>2002 Preliminary 4(e) Title</b>	<b>2003 #</b>	<b>2003 Revised Preliminary 4(e) Title</b>	<b>Remarks</b>
40	Interpretive, Education, and Public Information Plan	NA	Incorporated into #20 above	See above
41	Recreation Construction and Reconstruction	NA	Incorporated into #20 above	See above
42	Law Enforcement Monitoring and Patrol Plan	NA	Eliminated as stand alone condition	Incorporated into both the Recreation & Cultural Res Mgt Plans
43	Upper Britton Off-Highway Vehicle, and Vehicle Management Plan	NA	Incorporated into #20 above	See above
44	Whitewater Boating	NA	Incorporated into #20above	See above
45	Roads and Facilities Management Plan	NA	Incorporated into #20 above	See above
46	Traffic Use Surveys	NA	Incorporated into #20 above	See above
47	Project Road Rehabilitation	NA	Incorporated into #20 above	See above
48	Rights-of-way	NA	Eliminated as stand alone condition	Incorporated into Rec. Management Plan
49	Updating Obsolete Forest Service Special-Use Authorizations	NA	Eliminated as stand-alone condition	Statement incorporated into road plan
50	Visual Management Plan	NA	Incorporated into #20 above	See above
51	Land Adjustment Proposal	NA	Eliminated	Not Project related
52	Fire Prevention Plan	NA	Incorporated into #20 above	See above
53	Spoil Disposal Plan	NA	Incorporated into #20 above	See above
54	Geologic and Seismic Hazard Inspections and Reports	NA	Eliminated as stand alone condition	Statement incorporated into #2 above

**\*Notes:**

For 2003 condition #15: As discussed in this submittal cover letter, the actual instream flow, freshet flow, and other flow values in the Forest Service Preliminary 4(e)'s submitted in October 2002, have not been changed in these Revised Preliminary Conditions. We have not yet had the opportunity to review, incorporate changes, and interpret data from the 2002 Control Flow Studies that are relevant to these decisions. PG&E expects to release final reports from the August control test flow studies over the next several months. To additionally clarify, the Forest Service flow condition was originally and continues to be, a "flow shaping" condition with the 400 & 450 cfs proposed flows being interim measures for the Pit 3 and Pit 4 reaches respectively. These static flows would be replaced with variable "shaped" flows following finalization of 4(e) conditions based on review of pertinent data (not currently available) and discussions with appropriate parties, and after the Licensee modifies Project facilities (i.e. Pit 3 dam) to provide for variable flows. The term "shaped" flows refers to instream water flow releases that vary during different times of the year and, between different water year types.

For 2003 Condition 20: This condition combines many of the previous Forest Service monitoring and mitigation conditions into one condition as recommended by the FERC. Plan details of importance to the FS for each of the items listed below can be found in Enclosure 3, Appendix C of this response which is considered a part of this condition. This Appendix also provides the Licensee and the FERC with a better understanding of concerns to be addressed in the plans, the extent of FS mitigations for developing cost estimates, and provides a way to track issues as we move from License issuance to Plan development stages of this relicensing.

**Pit 3, 4, and 5 HYDROELECTRIC PROJECT, FERC No. 233**  
**PACIFIC SOUTHWEST REGION, USDA FOREST SERVICE**  
**REVISED PRELIMINARY 4(e) TERMS AND CONDITIONS**

**General**

License articles contained in the Federal Energy Regulatory Commission's (Commission) Standard Form L-1 issued by Order No. 540, dated October 31, 1975, cover those general requirements that the Secretary of Agriculture, acting by and through the Forest Service, considers necessary for adequate protection and utilization of the land and related resources of the Shasta National Forest, as administered by the Lassen and Shasta-Trinity National Forests. Under authority of section 4(e) of the Federal Power Act (16 U.S.C. 797(e)), the following terms and conditions are deemed necessary for adequate protection and utilization of the Shasta National Forest lands and resources. These terms and conditions are based on those resource and management requirements enumerated in the Organic Administration Act of 1897 (30 Stat. 11), the Multiple-Use Sustained Yield Act of 1960 (74 Stat. 215), the National Forest Management Act of 1976 (90 Stat. 2949), and any other law specifically establishing a unit of the National Forest System or prescribing the management thereof (such as the Wilderness Act or the Wild and Scenic Rivers Act), as such laws may be amended from time to time, and as implemented by regulations and approved Land and Resource Management Plans prepared in accordance with the National Forest Management Act. Therefore, pursuant to section 4(e) of the Federal Power Act, the following conditions covering specific requirements for protection and utilization of National Forest System lands shall also be included in any license issued.

**STANDARD CONDITIONS**

**Condition No. 1 - Approval of Changes After Initial Construction**

Notwithstanding any license authorization to make changes to the project, the Licensee shall obtain written approval from the Forest Service prior to making any changes in any constructed project features or facilities, or in the uses of project lands and waters the Forest Service deems as affecting or potentially affecting National Forest System lands and resources. Following receipt of such approval from the Forest Service, and a minimum of 60-days prior to initiating any such changes, the Licensee shall file a report with the Commission describing the changes, the reasons for the changes, and showing the approval of the Forest Service for such changes. The Licensee shall file an exact copy of this report with the Forest Service at the same time it is filed with the Commission. This article does not relieve the Licensee from the requirement for license amendment or other requirements of Article 2 or Article 3 of this license. Any changes to the license made for any reason pursuant to Article 2 or Article 3 shall be made subject to any new terms and conditions the Secretary of Agriculture may make pursuant to section 4(e) of the Federal Power Act.

## **Condition No. 2 - Annual Consultation on Affected National Forest Resources**

Each year during the 60-days preceding the anniversary of this license, or as arranged with the Forest Service, the Licensee shall consult with the Forest Service with regard to measures needed to ensure protection and utilization of the National Forest System land and resources affected by the Project. Within 60 days following such consultation, the Licensee shall file with the Commission evidence of the consultation with any recommendations made by the Forest Service. The Forest Service reserves the right, after notice and opportunity for comment and administrative review, to require changes in the project and its operation through revision of the 4(e) conditions that require measures necessary to accomplish protection and utilization of National Forest lands and resources. A copy of any violation report filed by PG&E with FERC shall be sent concurrently to the Forest Service. Annual consultation shall include discussion of the following:

- The monitoring components of the Land and Habitat Management Plans for Mitigating Project Affects to NFS Resources, and other applicable conditions.

## **Condition No. 3 - Maintenance of Improvements on or Affecting NFSL**

The Licensee shall maintain all its improvements and premises on National Forest System lands (NFSL) to standards of repair, orderliness, neatness, sanitation, and safety acceptable to the Forest Service. The Licensee shall comply with all applicable Federal, State, and local laws, regulations, including but not limited to, the Federal Water Pollution Control Act, 33 U.S.C. 1251 et seq., the Resources Conservation and Recovery Act, 42 U.S.C. 6901 et seq., the Comprehensive Environmental Response, Control, and Liability Act, 42 U.S.C. 9601 et seq., and other relevant environmental laws, as well as public health and safety laws and other laws relating to the siting, construction, operation, maintenance of any facility, improvement, or equipment. Additionally, Licensee shall provide to the Forest Service within one month of receipt of such inspections, reports related to facilities compliance with current geologic and seismic standards. Reports shall be submitted for all Project facilities which are either located on, or have the potential to affect National Forest System Lands should the structure fail.

## **Condition No. 4 - Existing Claims on NFSL**

The license shall be subject to all valid claims and existing rights.

## **Condition No. 5 - Compliance with Regulations on NFSL**

The Licensee shall comply with the regulations of the Department of Agriculture and all Federal, State, county, and municipal laws, ordinances, or regulations in regard to the area or operations covered by this license, to the extent federal law does not preempt ordinances or regulations.

### **Condition No. 6 - Protection of United States Property**

The Licensee shall exercise diligence in protecting from damage the land and property of the United States covered by and used in connection with this license.

### **Condition No. 7 – Surrender of License or Transfer of Ownership**

Prior to any surrender of this license, the Licensee shall restore National Forest System resources to a condition satisfactory to the Forest Service. In advance of the proposed surrender, the Licensee shall file a restoration plan for approval by the Forest Service. The restoration plan shall identify the measures to be taken to restore National Forest System resources and shall include adequate financial assurances such as a bond or letter of credit, to ensure performance of the restoration measures.

Any agreement made by the licensee to transfer or sell the License shall require the transferee or purchaser to post a bond to cover the cost of surrender and restoration of National Forest System resources. Prior to any request for approval from the commission for a sale or transfer of ownership of the license, the licensee shall pay for the cost of experts, selected by the Forest Service, to develop a restoration plan and estimate the cost of surrender and restoration. The licensee shall not request approval from the commission for the sale or transfer until the restoration plan and cost estimates are completed and the transferee or purchaser posts a bond, approved by the Forest Service, to cover the estimated cost of surrender and restoration.

### **Condition No. 8 - Self Insurance**

The Licensee shall indemnify, defend, and hold the United States harmless for any costs, damages, claims, liabilities, and judgments arising from past, present, and future acts or omissions of the Licensee in connection with the use and/or occupancy authorized by this license. This indemnification and hold harmless provision applies to any acts and omissions of the Licensee or the Licensee's heirs, assigns, agents, employees, affiliates, subsidiaries, fiduciaries, contractors, or lessees in connection with the use and/or occupancy authorized by this license which result in: (1) violations of any laws and regulations which are now or which may in the future become applicable, and including but not limited to environmental laws such as the Comprehensive Environmental Response Compensation and Liability Act, Resource Conservation and Recover Act, Oil Pollution Act, Clean Water Act, Clean Air Act; (2) judgments, claims, demands, penalties, or fees assessed against the United States; (3) costs, expenses, and damages incurred by the United States; or (4) the release or threatened release of any solid waste, hazardous substances, pollutant, contaminant, or oil in any form in the environment.

### **Condition No. 9 – Damage to Lands of United States - High Hazard**

The Licensee is hereby made liable for all injury, loss, or damage to the United States land and property, including but not limited to fire suppression costs, directly or indirectly resulting from or caused by the Licensee's power lines covered by this license, or any other high risk use and occupancy of the area covered by this license, regardless of whether the Licensee is negligent or otherwise at fault, provided that the maximum liability without fault shall not exceed \$1,000,000 for any one occurrence, and provided further that the Licensee shall not be liable when such injury, loss, or damage results wholly, or in part, from a negligent act of the United States, or from an act of a third party not involving the facilities of Licensee.

Determination of liability for injury, loss, or damage, including fire suppression costs, in excess of the specified maximum, shall be according to the laws governing ordinary negligence.

#### **Condition No. 10 - Risks and Hazards on National Forest System Lands (NFSL)**

The Licensee is responsible for inspecting its site, right of way and immediate adjoining area for dangerous trees, hanging limbs, and other evidence of hazardous conditions and is responsible for removing such hazards, after securing permission from the Forest Service, except in an emergency where there is an imminent risk of death or injury to the public or damage to facilities in which case the Licensee shall notify the Forest Service of the action as soon as possible.

#### **Condition No. 11 – Licensee Signs on or Affecting NFSL**

The Licensee shall consult with the Forest Service prior to erecting any signs on NFSL relating to this license. The Licensee must obtain the approval of the Forest Service as to the location, design, size, color, and message. The Licensee shall be responsible for maintaining all Licensee erected signs to neat and presentable standards.

#### **Condition No. 12 - Pesticide-Use Restrictions on NFSL**

Pesticides may be used to control undesirable woody and herbaceous vegetation, aquatic plants, insects, rodents, trash fish, etc., with the prior written approval of the Forest Service. The Licensee shall submit a request for approval of planned uses of pesticides. The request must cover annual planned use and be updated as required by the Forest Service. The Licensee shall provide information essential for review in the form specified by the Forest Service. Exceptions to this schedule may be allowed only when unexpected outbreaks of pests require control measures that were not anticipated at the time the report was submitted. In such an instance, an emergency request and approval may be made.

The Licensee shall use on National Forest System land only those materials registered by the U.S. Environmental Protection Agency for the specific purpose planned. The Licensee must strictly follow label instructions in the preparation and application of pesticides and disposal of excess materials and containers.



### **Condition No. 13 – Access by the United States**

The United States shall have unrestricted use of any road constructed within the project area for all purposes deemed necessary or desirable in connection with the protection, administration, management, and utilization of Federal lands or resources and shall have the right to extend rights and privileges for use of the right-of-way and road thereon to States and local subdivisions thereof, as well as to other users, including members of the public, except contractors, agents and employees of the Licensee; provided, that the agency having jurisdiction shall control such use so as not unreasonably to interfere with use of the road by the Licensee.

### **Condition No. 14 - Modification of Forest Service Conditions for Protection of NF Resources**

The Forest Service reserves the right to modify these conditions, if necessary, to incorporate changes necessitated by additional information provided by studies which have not been completed to date, by findings in the Project of new noxious terrestrial or aquatic biota, and to address new listings of Threatened, Endangered, and other special status species on the Project.

## **PROJECT SPECIFIC CONDITIONS**

### **Condition No. 15- Flow Regime for Affected NFSL**

#### **a. Minimum Instream Flow**

Within three years of license issuance, the licensee shall file with the Commission and implement a semi-monthly (i.e., twice per month) shaped minimum instream flow regime for the Pit 3 and Pit 4 bypass reaches, as approved by the Forest Service. The regime will be developed cooperatively by the licensee, the Forest Service, and other applicable agencies. Shaping shall include within-year changes (e.g., slightly higher flows in spring and lower flows in summer and fall) and between-year changes in flow (slightly higher flows in wet years and lower flows in dry years). Shaped instantaneous minimum flows will not exceed 1000 cfs and will not go below 250 cfs in the Pit 3 bypass reach and 300 cfs in the Pit 4 bypass reach.

The average annual amount of water used for shaping will not exceed an equivalent amount of water required to provide a flat line 400 cfs minimum flow in the Pit 3 bypass reach and a 450 cfs minimum flow in the Pit 4 bypass reach. (For illustration, using the 1975-1999 period of record, the amount of additional non-spill water required to meet the 400 cfs annual flow in the Pit 3 bypass reach (above that needed to maintain the previous 150 cfs minimum flow baseline) is approximately 130,000 acre-feet. The amount of additional non-spill water required to meet the 450 cfs annual flow in the Pit 4 bypass reach (above that needed to maintain the previous 150 cfs minimum flow baseline) is approximately 200,000 acre-feet.)

In the interim, the Licensee shall, beginning as early as practicable but no later than 3 months after license issuance, maintain minimum instantaneous streamflows of 400 cfs in the Pit 3 Project bypass reach and 450 cfs in the Pit 4 Project bypass reach.

Where facility modification is required to provide the specified shaped minimum streamflows, the Licensee shall complete such modifications as soon as practicable and no later than 3 years after license issuance. The Licensee shall modify streamflow release facilities such that the modified facilities can safely, accurately, and continuously release flows in 50 cfs increments ranging from 250 cfs to 1,000 cfs, and produce flow changes on at least a semi-monthly frequency without an unreasonable manual effort.

The minimum streamflows may be temporarily modified if required by equipment malfunction or operating emergencies reasonably beyond the control of the Licensee. If the streamflow is so modified, the Licensee shall provide notice to the Forest Service as soon as possible, but no later than 10 days after such incident. The minimum streamflows specified may also be temporarily modified for short periods in non-emergency situations 5 days after Forest Service approval.

**b. Instream Flow Measurement**

The Licensee shall measure and document all instream flow releases in publicly available and readily accessible formats. For the purposes of measuring and documenting compliance with the required minimum instream flows in the Pit 3 and Pit 4 Project bypass reaches, the Licensee shall prepare and file with the Commission an Instream Flow Measurement Plan (Plan) that is approved by the Forest Service. The Plan shall include a description of existing or proposed instream flow measurement gages or devices, including flow gages, spillway or reservoir outlet discharge measurement devices, etc., and a detailed proposal for measuring instream flow in each of the Project reaches with existing or proposed devices. The Plan must describe existing or proposed provisions for making mean daily flow data available to the public, and for making hourly and 15-minute gage data available to the Forest Service.

The Plan shall include evidence of gage calibration and historical and recent cross-section data, if applicable. The Licensee shall submit the Plan to the Forest Service as soon as practicable and no later than one year after license issuance and shall not begin construction of flow measurement devices or implementation of Plan elements until the Plan has been formally approved in writing from the Forest Service and filed with the Commission.

In the interim, prior to approval and implementation of the Plan, the Licensee shall maintain continual compliance with the Pit 4 minimum instream flow schedule at the existing Pit 4 reach gage (PG&E gage PH 30). There is presently no flow measurement device in the Pit 3 Project reach. Interim to implementation of the above Plan, compliance methodology for the Pit 3 bypass reach will jointly be agreed to by the licensee and Forest Service based on the best available methods.

**c. Maximum Ramping Rate & Up Ramping Analysis**

The Licensee shall within one year of license issuance, obtain Forest Service approval and file with the Commission an analysis to operate the Project to minimize impacts to the

recession limb of natural spills into the Pit 3 and 4 Project reaches. The resulting plan shall also regulate both the up ramping and down ramping rates of emergency or planned maintenance outages (with the exception of up ramp rates of some emergency spills, which cannot be managed), for the purpose of minimizing negative ecological effects of unnaturally rapid flow and stage fluctuations. Downramping requirements shall apply whenever instream flow measured hourly in the Pit 3 and 4 Project bypassed reaches are greater than the prescribed minimum instream flow but less than 4,000 cfs and decreasing following a natural or outage spill.

**Natural Spills:** Downramping of natural spills (i.e., inflows to the Project bypassed reaches that exceed the combined capacity of the reservoirs and diversion structures) shall downramp at approximately the natural attenuation rate. (i.e., equivalent to no manipulation of Lake Britton or Pit 4 reservoir levels and Pit 3 and Pit 4 penstock releases during spills). During such time the Licensee shall either: (1) hold the Project reservoir spillway(s) elevation and outflows (penstock diversion and instream flow diversion) magnitudes constant until the completion of the spill (i.e., flow over spillway ceases); or (2) manually manage the spill discharge into the Project reach(es) such that the maximum negative rate of change of flow is not more than an average daily decrease of 400 cfs. Downramping to minimum instream flow levels will not exceed a decrease of two-tenths of one foot per hour as measured at the approved Project reach stage gage.

**Other Spill Releases:** Downramping rates of all other flow releases into the Pit 3 and 4 bypassed reaches including those following emergency releases or planned releases shall follow a two-tenths of one foot per hour rate of change at approved stage gages.

For the purposes of implementing the maximum ramping rate requirement in the Pit 3 and 4 Project reaches, the Licensee shall establish methods for reliably and accurately measuring flow stage on an hourly basis. The Licensee shall therefore propose a plan for stage measurement for Forest Service approval, including proposed use of existing or to-be-established flow stage gages, as part of the Instream Flow Measurement Plan (above).

The Licensee shall conduct a Forest Service approved safety analysis of existing data (from this or other comparable Projects), or develop a study to determine appropriate upramping rates to assure river user safety. Following completion of the analysis/study, the Licensee shall propose for Forest Service approval, the maximum allowable upramp rate, which will then be filed with the Commission.

These ramping rates shall be implemented as soon as practicable after license issuance dependent upon facility capability but no later than when the facilities are upgraded to handle the shaped minimum instream flows.

**d. Freshet Flow**

The Licensee shall, after obtaining Forest Service approval and filing with the Commission, release a spring freshet flow into the Pit 3 and 4 Project bypassed reaches as described below. A freshet will be released if a natural or operational spill in either of the Pit 3 or Pit 4 bypass reaches meeting the following conditions has not occurred in the previous water year and up

to March 1<sup>st</sup> of the current water year. To preclude the release of a freshet flow release, a natural or operational spill must have the following characteristics: an instantaneous peak flow magnitude of at least 1,500 cfs, a two day average flow of at least 1,500 cfs, and average daily flow values at least 50% higher than the prescribed minimum instream flow for a duration of at least 21 days.

The freshet flow shall consist of a magnitude that exceeds the capacity of the existing baseflow channel and inundates the baseflow channel “floodplain” up to the elevation of the toe of the historical channel banks. This magnitude is approximately equal to the minimum instantaneous historical base flow of 1,500 cfs. The freshet will be released on March 1st of each year, when the conditions described above are met and if the average weekly temperature at known locations of Foothill Yellow-Legged Frog (FYLF) tadpoles in the Pit 4 bypassed reach have not exceeded 11 degrees C (interim temperature value pending results of “Amphibian Monitoring Plan” license condition). The Licensee shall intentionally release a freshet flow into the Pit 3 and 4 Project bypass reaches with the following timing, duration, magnitude, and ramping rate criteria and specifications:

**Minimum Total Duration:** 21 days

**Minimum Peak Duration and Magnitude:** Peak at a minimum instantaneous flow level of at least 1,500 cfs with an average daily flow of 1,500 cfs for a minimum of 2 days within the first 3 days of release, then linearly decline (constant daily flow changes) to minimum instream flow.

**Interim Timing:** (until completion of “Biological Monitoring and Adaptive Management Plan”): Immediately (within 3 days) of March 1<sup>st</sup> a freshet will be released as described in the first paragraph of d. above, unless weekly average temperatures already exceed 11 degrees C by March 1, then no intentional freshet flow spill is required.

**Maximum Ramping Rates:** Ramping rates from base flows up to maximum peak magnitude and, from maximum peak magnitude down to base flows, shall not exceed the set maximum ramping rate criteria in this license.

As part of this license article, the Licensee shall conduct a five-year monitoring study of Foothill Yellow Legged Frog (FYLF) onset of breeding activity and timing (see “Biological Monitoring and Adaptive Management Plan”). One year following submittal of the final results of the five-year study, the Forest Service will revise the intentional freshet flow release timing if necessary and appropriate to ensure that freshet flow releases are reliably timed to occur prior to laying of FYLF egg masses.

Following completion and review of the flow mapping results and any other applicable flow studies from the 2002 empirical flow release studies, the Forest Service may revise this freshet flow release schedule if necessary and appropriate to achieve riparian vegetation and aquatic habitat objectives including but not limited to reducing vegetation encroachment, providing access to diverse habitat on the channel floor for aquatic species, preventing, reducing, or removing bullfrog populations, and providing spring recreation flows.

### **Condition No. 16 – Management of Planned Spill Events Affecting NFS Resources**

The Licensee shall prepare within one year of license issuance, for Forest Service approval and filing with the Commission, a “Notification and Minimization of Emergency and Planned Maintenance Outage Spill Plan” (Plan), for the purpose of minimizing the negative ecological effects of uncontrolled high flows into the Pit 3 and 4 Project bypassed reaches resulting from emergency and planned hydropower facilities maintenance outages. The Plan shall include proposed potential measures for minimizing the magnitude and duration of planned and emergency outage spills into the Pit 3 and 4 Project reaches, including use of available storage within the Project and coordinated use of available storage upstream from the project.

The Licensee shall also prepare, within one year, as approved by the Forest Service and filed with the Commission, a feasibility study for providing flow continuation devices on the Pit 3 and Pit 4 powerhouses to provide continuation of flow through the penstock in the event of planned and emergency turbine shutdowns. In the event the Forest Service, in consultation with other agencies determines the continuation devices to be feasible, the Licensee shall install such devices in a timely manner. In the event that any species become Federally listed as threatened or endangered (e.g., FYL frogs), the Forest Service reserves the right to re-evaluate the feasibility of having flow continuation devices installed.

During the license term, the Licensee shall provide written notification to the Forest Service 90 days prior to any planned or scheduled maintenance outages in the Pit 3 and 4 Project bypassed reaches. The notification shall include a description of Project and coordinated measures the Licensee plans to take to minimize the magnitude and duration of resulting spills into the Project reaches, and appropriate selection of the seasonal timing of the planned outage spill to lessen negative ecological effects. The Licensee shall not proceed with the planned maintenance outage without the formal written approval of the Forest Service. The Licensee shall document all scheduled outage spills and measures taken to minimize their magnitude and duration and, documentation should be provided for the annual consultation meeting.

Furthermore, during the license term, the Licensee shall maintain project operations and timely coordination with upstream project operations and storage availability such that the Licensee is able to make reasonable and timely use of Project and upstream available water storage immediately upon the initiation of emergency maintenance outage spills into the Project reaches. The objective is to minimize, to the extent feasible, the magnitude and duration of the resulting spill into the Pit 3 and 4 Project reaches.

### **Condition No. 17 - Gravel and Woody Debris Programs to Benefit NFS Resources**

The Licensee shall file with the Commission within one year of license issuance, a Gravel Management Plan with a woody debris routing procedure component that is approved by the Forest Service. At a minimum the Program shall include:

## **1. Gravel Management Plan**

The Plan shall include identification of augmentation sites and procedures, methods, and timelines for a: (1) four-year pre-implementation monitoring phase to establish baseline trout and invertebrate populations, trout reproduction and spawning, and substrate conditions near the designated augmentation sites prior to implementation; (2) annual gravel placement at designated sites; and (3) post-implementation monitoring and reporting at 4-year intervals during the license term to evaluate and quantify program benefits to aquatic resources.

**Pre-Implementation Monitoring Phase:** The Licensee shall conduct a 4-year pre-implementation monitoring phase and report (baseline) results at the end of the 4-year period, including annual evaluation of the following conditions near the designated gravel augmentation sites: (1) trout population size; (2) trout recruitment and young-of-the-year trout population size; (3) trout reproduction and spawning redd construction; (4) macroinvertebrate productivity; and (5) map extent and distribution of in-channel gravel storage and potential spawning gravel deposits.

**Implementation Phase:** The Licensee shall begin gravel augmentation at each of the designated sites the year following completion of the 4-year monitoring phase and report identified above. In the first year and each successive year during the license term, the minimum total annual amount of gravel augmentation shall be 1,248 tons/year or the maximum amount obtainable at industry standard cost with a \$30,000 annual budget (2002 dollars), whichever is less. One half of the total annual amount so determined shall be placed at site(s) designated in the Pit 3 reach, and one half shall be placed at site(s) designated in the Pit 4 reach. Gravel augmentation shall be completed by direct placement of clean, rounded gravel ranging in size from approximately 8-64 mm with a median size of approximately 25-35 mm.

**Post-Implementation Monitoring Phase:** The Licensee shall replicate pre-implementation phase monitoring and reporting following the fourth year of annual gravel augmentation and again following each successive 4-year interval. Monitoring reports shall include a quantitative comparison of that year's results to the baseline values and previous report years' results, and characterization of trends over several report years, for the following parameters: (1) trout population size; (2) trout recruitment and young-of-the-year trout population size; (3) trout reproduction and spawning redd construction; (4) macroinvertebrate productivity; and (5) map extent and distribution of in-channel gravel storage and potential spawning gravel deposits.

## **2. Large Woody Debris Management Plan**

Licensee shall include in the Gravel Management Plan above, a new standard operating procedure outlining how passage of woody debris over the Pit 3 spillway during spill events will be accomplished, and shall implement such procedures as conditions dictate.

### **Condition No. 18 - Reservoir and Afterbay Dredging Affecting NFSL**

The Licensee shall notify the Forest Service in writing not less than 90 days prior to any proposed or scheduled reservoir or afterbay dredging operations that occur on, or affect National Forest System lands. The Licensee shall file notification concurrently with the Commission. For the purposes of increasing sediment supply to the Project reaches and minimizing ecological impacts related to dredging operations, the notification shall include information regarding the purpose of dredging, dredging location and extent, approximate amount, composition, and size of dredged spoils materials, proposed start and end date of dredging and disposal activities, and proposed disposal method and site location. The Licensee shall then enter into discussions with the Forest Service regarding potential modifications and alternatives to the proposed dredging activity including but not limited to: modifications to proposed start and end date, proposed dredging and disposal methods, amounts of material, alternatives for material processing and/or direct disposal into Project reaches to increase sediment supply, and disposal locations. The Licensee shall not begin proposed reservoir or afterbay dredging and disposal activities until formal written permission to implement an approved plan is provided by the Forest Service. Documentation of correspondence with the Forest Service shall also be filed with the Commission.

### **Condition No. 19 - Water Temperature Monitoring and Maintenance Plan for Affected NFSL**

Within one year of license issuance, and in consultation with applicable Federal and State agencies, the Licensee shall file with the Commission a water quality plan that is approved by the Forest Service, as it relates to aquatic habitats managed by the Forest Service. This plan shall, as appropriate, include:

- Monitoring of water temperature effects to beneficial uses, (including recreationists, and target aquatic habitats including those used by foothill yellow legged frogs, fish, and benthic macroinvertebrates) resulting from any changes in project instream flows during the months when temperature could limit aquatic biota, including foothill yellow-legged frog habitat in the spring. Monitoring to be conducted by project segments (i.e. reservoirs and reaches).
- Other measures as required by the FERC and other consulted parties.

### **Condition No. 20 – Land and Habitat Management Plans (LHMP) for Mitigating Project Affects to NFS Resources**

Within the timeframes described below, and in consultation with applicable Federal and State agencies, the Licensee shall file with the Commission Land and Habitat Management Plans that are approved by the Forest Service, as they relate to resource management on the National Forest. Details of these plans are attached in Enclosure 3, Appendix C which are considered a part of this license condition. The plans shall include:

- a. Erosion and sediment control plan
- b. Spoil pile management plan

- c. Biological monitoring and adaptive management plan
- d. Vegetation Management Plan
- e. Interagency Bald Eagle Management Plan
- f. Cultural Resources Management Plan
- g. Recreation management plan
- h. Road and facilities management plan
- i. Fire management and response plan
- j. Visual management plan

**a. Erosion and sediment control plan**

Provide measures to control erosion related to project facilities including dams, roads, penstocks, powerlines, transformer sites, reservoirs, and reaches. Address stream sedimentation, dust, and soil movement induced by project roads and road maintenance activities, preventing loss of roads through on-going hillside erosion, sediment management of roads within 300 feet of the river (or hydrologically connected to the river), diversion prevention dips in specified areas to minimize damage from culvert failure, and other needed measures.

**b. Spoil pile management plan**

Within two years of license issuance and at least 90 days prior to any ground disturbing or soil producing or piling activity, Licensee shall file with the Commission, a Spoil Disposal Plan, approved by the Forest Service, for protection of forest resources affected by disposal and storage of project-related natural materials on National Forest System lands. There are currently no approved project-associated borrow or disposal sites on NFSL.

**c. Biological monitoring and adaptive management plan**

The plan components below can be combined, as appropriate.

**Fish and Benthic Macroinvertebrate Monitoring of Reaches and Reservoirs:**

Within one year of license issuance, and in consultation with the Forest Service and other applicable agencies, the Licensee shall file with the Commission a fish population and condition trend-monitoring plan outlining sampling that shall be conducted in the Pit 3 and 4 Project bypassed reaches and reservoirs. This report will include a trends analysis for FS special status fish for those species that have been shown, in other Project studies, to be susceptible to entrainment. If a trend towards listing is indicated for these special status species, the Licensee shall conduct quantitative fish entrainment studies at that time. The studies will follow procedures developed by the Licensee and agreed to by the Forest Service and other consulting agencies and will occur at the Pit 3 and Pit 4 tailraces. Additionally, the Licensee shall conduct benthic macroinvertebrate population robustness, feeding group and tolerance/intolerance trend monitoring in the Pit 3 and 4 bypassed reaches.

**Amphibian & Reptile Monitoring Plan**

The Licensee shall, within one year of license issuance, develop and implement an amphibian and reptile (western pond turtle) monitoring plan in consultation with other agencies, approved by the Forest Service, and filed with the Commission.

### **Wildlife Mitigation and Monitoring Plan**

The Licensee shall file with the Commission within one year of license issuance, and following approval of the Forest Service and other appropriate agencies, a wildlife mitigation and monitoring plan. For species where current information on population occurrence is lacking (e.g. valley elderberry long-horned beetle, survey and manage molluscs, and northern goshawk) the Licensee shall perform necessary habitat surveys approved by the Forest Service prior to implementation of any resource disturbing activity.

### **Protection of Threatened, Endangered, Proposed for Listing and Sensitive Species Plan**

Before taking actions to construct new project features on NFSL (including, but not limited to, proposed recreation developments) that may affect a species proposed for listing, or listed under the federal Endangered Species Act (ESA), or that may affect that species' critical habitat, or a Forest Service sensitive, survey and manage, or other special status species or their habitats, the Licensee shall prepare, in consultation with appropriate agencies a biological evaluation, and/or other appropriate wildlife analysis document assessing potential impacts of the action on species or their habitats and submit it to the Forest Service for approval. In consultation with the Commission, the Forest Service may require mitigation measures for the protection of the affected species.

### **d. Vegetation Management Plan**

The Licensee shall file with the Commission, within two years of license issuance or prior to any ground-disturbing activities, a Vegetation Management Plan that is approved by the Forest Service. The plan shall address noxious weed management, transmission and distribution line corridor vegetation maintenance, and riparian overstory removal for habitat improvement (e.g. for Foothill Yellow-Legged Frog).

### **e. Interagency Bald Eagle Management Plan**

Within 3 months of license issuance, the Licensee shall initiate consultation with the Forest Service and other appropriate agencies to develop a new Bald Eagle Management Plan for the Project area. After approval by all involved parties, the Plan shall be filed with the Commission. This plan shall be completed within 2 years of license issuance. This Plan will assist in the ongoing bald eagle recovery efforts and will be a tool for future management of all lands around these projects.

### **f. Cultural Resources Management Plan**

The Licensee shall file with the Commission, within one year following license issuance, a Cultural Resources Management Plan (CRMP), approved by the Forest Service, for the purpose of protecting and interpreting heritage resources. The Licensee shall consult with the State Historic Preservation Officer, Native American Tribes, Forest Service, and other applicable agencies and communities during the preparation of the plan. The CRMP shall be incorporated into the Programmatic Agreement, of which the Forest Service will be a signatory, by reference. The CRMP shall accurately define the area of potential effects, including effects of implementing Section 4(e) conditions, and shall take into account Project effects on the National Register Lake Britton Archaeological District, National Register

properties, Native American traditional cultural values, and Project-induced recreational impacts to archaeological properties on or affecting National Forest System lands. The CRMP shall also provide measures to mitigate the identified impacts, including a monitoring program, a patrolling program (to include the ability to cite and prosecute violators), and management protocols for the ongoing protection of archaeological properties. The Programmatic Agreement will be filed with the Commission. The new National Register Nomination for the Lake Britton Archaeological District will be filed within one year of license issuance.

If, prior to or during ground-disturbing activities or as a result of project operations, items of potential cultural, historical, archeological, or paleontological value are reported or discovered, or a known deposit of such items is disturbed on National Forest System lands and Licensee adjoining fee title property, the Licensee shall immediately cease work in the area so affected. The Licensee shall then: (1) consult with the California State Historic Preservation Officer (SHPO) and the Forest Service about the discovery; (2) prepare a site-specific plan, including a schedule, to evaluate the significance of the find and to avoid or mitigate any impacts to sites found eligible for inclusion in the National Register of Historic Places; (3) base the site-specific plan on recommendations of the SHPO, the Forest Service, and the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation; (4) file the site-specific plan for Commission approval, together with the written comments of the SHPO and the Forest Service; and (5) take the necessary steps to protect the sites from further impact until informed by the Commission that the requirements have been fulfilled.

**g. Recreation Management Plan**

The Licensee shall, within one year of license issuance, develop a Recreation Management Plan (RMP) in consultation with the Forest Service, National Park Service, US Fish and wildlife Service, California Department of Parks and Recreation, California Department of Fish and Game, State Water Resources Control Board, the Hat Creek Technical Advisory Committee, and other interested stakeholders and file the plan with the Commission. The plan should follow the general process and framework for “Limits of Acceptable Change” as used by the Forest Service but modified for non-wilderness areas. The Recreation Management Plan will, as a minimum include the following elements:

- Plan Coordination and Review
- Recreation Monitoring Plan including FS approved surveys
- Interpretive, Education, and Public Information Plan which includes flow information for recreationists
- Recreation Facilities including construction and reconstruction designs and schedules
- Boating Access and Management of Lake Britton
- Trails management
- Dispersed access in the river reaches including scenic overlook
- Pit Reach Reservoir Access and Improvements including whitewater access points
- Dispersed Camping planning and implementation
- Recreation Compliance Monitoring including coordination between law enforcement agencies and Licensee

**h. Roads and Facilities Management Plan**

Licensee shall file with the Commission, within one year following the issuance of a new project license, a Roads and Facilities Management Plan including the following components: Off-Highway Vehicle (OHV) and Vehicle Management Plan for the Lake Britton area, FS-approved traffic use surveys, and a schedule for implementation of specific measures to rehabilitate and maintain existing roads. The Forest Service reserves the right, after notice and opportunity for comment and administrative review, to require changes in project roads affecting NFSL and roads, through revision of the 4(e) conditions that require measures necessary to accomplish protection and utilization of National Forest resources and provide for public safety. This plan shall be approved by the Forest Service for protection and maintenance of NFS lands and roads associated with this Project. The roads and facilities management plan shall incorporate Forest Service (FS) standards (i.e. FS manuals and handbooks) for design, construction, operation, and maintenance. Licensee shall implement all activities associated with roads resulting from Project activities in accordance with these standards and as appropriate with the Road Management Objectives (RMO's) assigned to each road by the Forest Service.

**i. Fire Management and Response Plan**

Prior to June 1 following license issuance or 60 days prior to any ground-disturbing activity, the Licensee shall file with the Commission a Fire Management and Response Plan that is approved by the Forest Service in consultation with appropriate State (California Department of Forestry and Fire Protection) and local fire agencies. The plan would include measures for fuels treatment, public awareness, prevention, and emergency response procedures as they affect, or have the potential to affect NFSL and resources.

**j. Visual Management Plan**

Within 1 year of license issuance, the Licensee shall file with the Commission a Visual Management Plan that is approved by the Forest Service for any NFS lands that are visually affected by the Project.