106 FERC ¶ 61,065
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Pat Wood, III, Chairman;
Nora Mead Brownell, Joseph T. Kelliher,
and Suedeen G. Kelly.

Pacific Gas and Electric Company Project No. 77-110

ORDER AMENDING LICENSE

(Issued January 28, 2004)

1. In this order the Commission approves, with modifications, an application by Pacific Gas and Electric Company (PG&E) to amend the license for the Potter Valley Project No. 77. The amended license is in the public interest because the Project's operating regime will be changed to benefit federally-listed threatened salmonids in California's Eel River Basin.

I. BACKGROUND

A. Project Description

2. The 9.4-megawatt (MW) Potter Valley Project, located on the Eel River and East Branch Russian Rivers in northern California, was first licensed in 1922 and was relicensed in 1983.[1] The uppermost portion of the Project includes Scott Dam and the storage reservoir it impounds, Lake Pillsbury, which are on the Eel River. Below Scott Dam, the Eel River flows twelve miles into Van Arsdale Reservoir, created by Cape Horn Dam. Cape Horn Dam has upstream and downstream fish passage facilities, enabling salmon and steelhead to use the reach between Cape Horn and Scott Dam. There are no fish passage facilities at Scott Dam.

3. At Van Arsdale, water is either released from or spills over Cape Horn Dam, where it flows northwest in the Eel River approximately 150 miles to the Pacific Ocean, or it is conveyed south by tunnel and penstock to the Potter Valley powerhouse. The Potter Valley powerhouse is located in the upper Russian River Basin, and is the source of most of the water in the East Branch Russian River (East Branch RR). The East Branch RR

[1] 25 FERC ¶ 61,010. The current license expires on April 14, 2022.

flows south and joins with the mainstem Russian River, which also drains into the Pacific Ocean.[2] An average of about 160,000 acre-feet (ac-ft) are diverted annually from the Eel River Basin into the Russian River Basin.[3]

B. Project Setting

4. The Eel River Basin drains an area of about 3,600 square miles in northern coastal California. The watershed is composed primarily of mountainous terrain. The area is heavily forested and strongly rural in character. The principal economic activities are forestry and the production of forest products.[4] Cape Horn and Scott Dams are located in the upper reaches of the watershed. Scott Dam, Lake Pillsbury, and several miles of the Eel River below Scott Dam are located within the exterior boundaries of the Mendocino National Forest. Lake Pillsbury is a regionally important recreation destination.[5] The storage capacity of Lake Pillsbury has decreased over time due to accumulation of silt and sediment loads from the upper reaches of the watershed.[6]

5. The Russian River Basin is less than half the size of the Eel River Basin. The upper reaches of the basin feature hilly or mountainous terrain. Diversion of water by the Potter Valley Project beginning in 1912 changed the upper reaches of the East Branch RR from a seasonal or intermittent stream to one which flows year round. Irrigated agriculture, including orchard crops and vineyards, is an important component of the upper basin economy. Surface and subsurface water sources are used extensively for irrigation, and some of the water discharged from the Potter Valley powerhouse satisfies

---

[2] The location of the Project facilities in relation to one another, the river courses, and other major water projects in these river basins are depicted in the Environmental Impact Statement (EIS) prepared in this proceeding. See EIS Figures 1.1-1, p. 1-2 and Figure 2.1-1, p. 2-2. See also Figures 1 and 2 of the Biological Opinion prepared in this proceeding by the National Marine Fisheries Service (NOAA Fisheries).

[3] This equates to an average of 219 cubic feet per second (cfs) per day.

[4] EIS at p. 3-6.

[5] An important operational consideration when the current license was issued was maintenance of Lake Pillsbury's surface level. Article 43 (25 FERC ¶ 61,010 at 61,071) requires PG&E to maintain the lake's surface level at the highest practicable level during the summer recreation season, and to file an operational plan for achieving this goal. PG&E's plan, developed in consultation with the U.S. Forest Service, was filed in December 1983, but was not required to be approved by the Commission.

[6] EIS at pp. 2-3, 2-7.

a contract between PG&E and Potter Valley Irrigation District (PVID).[7] About 15 miles downstream from the Potter Valley tailrace, the East Branch is impounded by the U.S. Army Corps of Engineers' (Corps) Coyote Dam to form Lake Mendocino. Lake Mendocino is heavily used for irrigation, municipal water supply, and recreation.[8] The lower basin is primarily gently sloping and level valley land. It includes portions of Mendocino and Sonoma Counties, which are rapidly urbanizing, and there are many diversions for domestic water supply, agricultural, municipal, and industrial use. The Russian River Basin also includes another major multi-purpose reservoir, Lake Sonoma, which is impounded by a Corps dam and is located on a tributary to the lower Russian River about 40 miles south of Lake Mendocino.[9]

C. Procedural History

1. Existing License Requirements

6. The current license is based on a contested 1983 settlement agreement.[10] The principal concerns then, as now, are the Project's impacts on Eel River salmon, various strains of which are now listed as threatened under the Endangered Species Act[11] and the availability of water for multiple purposes in the Russian River Basin. Pursuant to the 1983 agreement, the license contains Articles 38 and 39,[12] which are the genesis of this amendment proceeding.

---

[7] Of the 160,000 ac-ft diverted annually from the Eel River the Russian River, about 15,000 ac-ft is attributable to the contract between PG&E and PVID. Portions of the contract that establish the amount of water PG&E is obligated to deliver to PVID are included in Interior's comments on the Final Environmental Impact Statement prepared in this proceeding, filed July 20, 2002, at p. 17.

[8] Lake Mendocino and other Russian River basin water projects and uses are described at EIS pp. 2-7 through 2-10.

[9] See EIS at p. 2-8.

[10] The parties to the 1983 settlement agreement were PG&E, the California Department of Fish and Game (CDFG), the Counties of Humboldt, Mendocino, and Sonoma, California, the Mendocino County Russian River Flood Control and Water Conservation District (Mendocino Flood Control), and the Sonoma County Water Agency (Sonoma Water).

[11] 16 U.S.C. §§ 1531-43.

[12] 25 FERC ¶ 61,010 at 61,067-70.

7. Article 38 establishes a complex regime of minimum flow requirements for three control points at the Project: (1) The Eel River below Scott Dam, to ensure spawning and incubation habitat for salmon and steelhead between Scott Dam and Cape Horn Dam; (2) the East Branch RR at the Potter Valley powerhouse, to maintain habitat for rainbow trout and conditions for fishing during the summer; and (3) the Eel River below Cape Horn Dam, to provide habitat for salmon and steelhead.[13] The required flows are based on the time of year, type of water year (e.g., normal, dry, critically dry), cumulative inflow to the Project, and hydrologic triggering events, such as major storms and spring snowmelt.[14] As discussed below, three types of Eel River salmonids are federally listed as threatened under the ESA.

8. Article 39 requires PG&E to conduct a 10-year study of the effects of the Article 38 flow release schedule on the salmonid fishery in the upper Eel River and the East Branch, and to monitor the temperature regime of the Eel River downstream of Scott Dam. To this end, it requires PG&E consult with CDFG and the U.S. Department of the Interior's (Interior) Fish and Wildlife Service (FWS) on the study results and to recommend for Commission approval any necessary modifications to the flow release schedule or Project structures or operations needed to protect fishery resources.[15] The National Marine Fisheries Service, within the National Oceanographic and Atmospheric Administration of the U.S. Department of Commerce (hereafter, NOAA Fisheries), also participated in the conduct of the study.

---

[13] In 1987, substantial improvements were made to the existing fish ladder at Cape Horn Dam. The fish screen at the Van Arsdale diversion structure was replaced with a state-of-the-art screen system in 1994-1995. EIS at pp. 2-6.

[14] Under Article 38, minimum flows below Cape Horn Dam from November through March are up to 100 cfs, depending on the water year type. Minimum flows in April and May ramp down to a 5-cfs summer minimum flow requirement beginning June 1. During November and December, weekly adjustments can occur in response to significant runoff events, such as storms. From January through May, requirements are calculated on a monthly basis. Spillage is frequent and during the winter flows are often more than an order of magnitude higher than the minimum flow.

[15] Article 41 (25 FERC ¶ 61,010 at 61,070) requires PG&E to conduct a study and make recommendations in consultation with Interior and CDFG to determine measures needed at Scott Dam to provide a temperature regime downstream of that dam to assist timely downstream migration of juvenile salmonids from the Upper Eel River. Following that study, which was completed in 1986, the Commission made no changes to the Article 38 flow regime, but directed additional monitoring to be included in the Article 39 study. 36 FERC ¶ 62,177 (1986).

2. PG&E's Amendment Application

9. Following the Article 39 study, PG&E issued a Draft Final Report on September 27, 1996. Following further agency consultations, PG&E issued a Final Report on March 31, 1998, along with a document labeled "Joint Recommendations" of PG&E, California Department of Fish and Game (CDFG), FWS, and NOAA Fisheries (Joint Recommendations).[16] The flow regime of the Joint Recommendations, plus various non-flow measures,[17] to be administered under an Implementation and Compliance Plan filed by PG&E on September 8, 1998, is PG&E's license amendment proposal.

10. Notice of PG&E's amendment application and of the Commission's intent to prepare an environmental impact statement (EIS) was issued in the Federal Register, with comments, responses, and motions to intervene due by June 8, 1998.[18] Comments and motions to intervene were filed by many entities.[19]

---

[16] The phrase "Joint Recommendations" has become a misnomer, because Interior and NOAA Fisheries have withdrawn their previous support. See, e.g., NOAA Fisheries letter filed April 16, 1998. CDFG continues to support the Joint Recommendations.

[17] See Joint Recommendations at pp. 7-8. Non-flow measures are discussed in various locations in this order.

[18] 63 Fed. Reg. 19247-48 (April 17, 1998).

[19] Timely motions to intervene were filed by the California Farm Bureau Federation; CDFG; California Trout, Inc. (Cal Trout); California Sportfishing Protection Alliance (CSPA); individually by the Cities of Healdsburg, Petaluma, Rohnert Park, Santa Rosa, Sonoma, and Ukiah; individually by the Counties of Humboldt, Lake, and Mendocino; Friends of the Eel River (Friends); Friends of the Russian River; John R. Calaprice; Marin Municipal Water District; Mendocino County Inland Water and Power District (Mendocino Water & Power); Mendocino County Farm Bureau; Mendocino County Russian River Flood Control and Water Conservation Improvement District (Mendocino Flood Control); Mendocino County Water Agency; NOAA Fisheries; NorthCoast Environmental Center; North Marin Water District; Northern California Association of River Guides; PVID; Redwood Chapter of the Sierra Club (Sierra Club); Round Valley Indian Tribes (Tribes); Russian River Chamber of Commerce; Russian River Region, Inc.; Salmon Trollers Marketing Association; Santa Rosa Chamber of Commerce; Sonoma County and Sonoma Water (together, Sonoma); Sonoma County Alliance; Sonoma County Grape Growers Association; Sonoma County Farm Bureau; Sonoma County Manufacturing Group; Sweetwater Springs Water District; Trout Unlimited; Interior; Town of Windsor; U.S. Department of Agriculture's Forest Service; Interior; United Winegrowers of Sonoma County (Winegrowers); and Windsor Water

(continued…)

3. NEPA Document Preparation

11. An initial scoping document for the EIS was issued on May 22, 1998. Following a site visit and public scoping meetings on June 3 and 4, 1998, in Ukiah and Eureka, California, respectively, and the receipt of written comments, a revised scoping document was issued on August 21, 1998. A technical meeting to obtain additional information on PG&E's proposed implementation plan, water rights, and computer modeling techniques was held on August 11, 1998, in Ukiah.[20]

12. A Draft EIS recommending PG&E's proposal was issued on February 23, 1999. The Draft EIS also considered action alternatives proposed by the Round Valley Indian Tribes (Tribes) and Sonoma, and the no action alternative.

13. On April 13 and 14, 1999, public meetings were held in Ukiah and Eureka, respectively, to discuss the Draft EIS. Following that meeting, many entities filed comments on the Draft EIS.[21] Contemporaneously with their comments on the Draft EIS, Interior and NOAA Fisheries jointly proposed a new alternative Eel River flow schedule (DOI/NMFS alternative). Comments on the DOI/NMFS flow recommendations were initially filed by the Tribes and PG&E. Interior filed a response to PG&E's comments.

(continued…)
District.

A late motion to intervene was filed by the Redwood Valley County Water District. By notice issued November 26, 2003, its motion was granted.

[20] Various filings relating to the computer models under consideration were also made during this period.

[21] Comments on the Draft EIS were due on April 27, 1999. 64 Fed. Reg. 9,508 (Feb. 26, 1999). Comments were filed by CDFG; Cal Trout; CSPA; Lake and Humboldt Counties; the Tribes; the Cities of Ukiah, Cloverdale, and Santa Rosa; Humboldt County Farm Bureau; Interior; Friends; Pacific Coast Federation of Fishermen's Associations; Mendocino Water & Power; Mendocino Flood Control; Forest Service; NOAA Fisheries; PVID; Redwood Valley; Sierra Club; Sonoma; and Winegrowers. Non-party commenters were The Arcata, California Chamber of Commerce; California Coastal Provincial Advisory Committee; Virginia Graziani; Dean Heyenga; Lake Pillsbury Cultural Resources Management Plan Committee; Mendocino County Department of Agriculture; and the U.S. Environmental Protection Agency (EPA). See also NOAA Fisheries' letter filed April 7, 1999, requesting additional information; Commission staff letter dated April 9, 1999 in response; NOAA Fisheries' letter filed May 27, 1999; and Commission staff letter dated August 19, 1999, in response.

Additional responses to the DOI/NMFS flow recommendations were then filed by PVID and Sonoma. PVID's comments on the draft EIS included a new proposed alternative (PVID alternative). NOAA Fisheries and Interior responded to Sonoma.

14. A technical conference to discuss computer models used by Commission staff and various participants was held on June 2-3, 1999, in Santa Rosa.

15. The Final EIS, issued on May 30, 2000, recommended adoption of the PVID alternative. Comments on the Final EIS were filed by CDFG, Interior, NOAA Fisheries, the Tribes, PG&E, Humboldt County, Sonoma, the U.S. Environmental Protection Agency (EPA), and the Forest Service.[22]

16. PG&E filed comments in response to the comments of Interior, NOAA Fisheries, and the Tribes. PG&E, Mendocino Water & Power, and PVID filed comments in response to the comments of the Forest Service.

17. On September 20, 2001, Interior filed revised software and input files for modeling of minimum flow proposal alternatives and a request that the Commission prepare a supplemental EIS based on Interior's revised computer model. On October 19, 2001, Sonoma filed comments on Interior's revised modeling software. On November 2, 2001, Sonoma filed the results of modeling runs that it conducted using Interior's software. Sonoma concurred with the use of Interior's model, subject to certain modifications. On December 20, 2001, Interior filed comments on Sonoma's modeling runs and opposing Sonoma's modifications. On January 2, 2002, Sonoma filed the results of modeling runs on the impacts of the various alternatives on Lake Sonoma water storage.

4. Modified PVID Alternative

18. On June 14, 2001, PG&E submitted a proposed modification to the PVID alternative (modified PVID alternative). The Commission issued public notice requesting comments on the modified PVID alternative.[23] Comments on the modified PVID alternative were filed by Interior, NOAA Fisheries, CDFG, PVID, Mendocino Water & Power, Cal Trout, the Tribes, Humboldt County and, collectively, by Friends, CSPA, and the Pacific Coast Fishermen's Association. Responses to the comments on the modified PVID alternative were filed by PG&E and Sonoma. On November 13, 2001, Humboldt filed a letter withdrawing previous expressions of support for the modified PVID alternative.

---

[22] The Forest Service comments included an environmental analysis (EA) on its purported FPA Section 4(e) conditions, filed May 15, 2000, which are discussed below.

[23] 66 Fed. Reg. 36,276 (July 11, 2001).

19. On May 7, 2002, Commission staff issued a letter stating that upon review of the above mentioned filings it had decided not to adopt PG&E's modified PVID proposal as the proposed agency action and to continue to recommend the original PVID alternative recommended in the Final EIS. The letter also declined to supplement the Final EIS.

20. On July 29, 2002, Interior filed a response to staff's May 7, 2002 letter, disagreeing with the staff's conclusions regarding the efficacy of the computer modeling analysis in the Final EIS and reiterating its request for a supplemental NEPA document.

5. Forest Service Conditions

21. By letter filed December 14, 1998, the Forest Service issued notice of its intent to issue mandatory conditions for the protection of Mendocino National Forest pursuant to FPA Section 4(e).[24]

22. On March 3, 1999, the Forest Service filed preliminary conditions. On March 8, 1999, and April 5, 1999, PG&E and Sonoma, respectively, filed comments in response to the Forest Service's preliminary conditions which questioned the basis for the conditions and the Forest Service's assertion of authority under Section 4(e). On May 4, 1999, the U.S. Department of Agriculture, Office of the General Counsel, filed responsive comments in support of the Forest Service's assertion of Section 4(e) authority.

23. On September 20 and 30, 1999, respectively, the Forest Service filed its first and second revised preliminary conditions. On October 15 and November 2, 1999, respectively, Sonoma and PG&E filed comments. On November 18, 1999, Sonoma filed a response to PG&E's comments.

24. On May 15, 2000, the Forest Service filed its third revised preliminary conditions. On June 1, 2000, Sonoma filed a response.

25. On September 29, 2000, the Forest Service filed an EA on its conditions. On January 29, 2001, the Forest Service filed a letter including its final purported Section 4(e) conditions, and an appendix to its previously filed EA that responded to the comments thereon.

6. NOAA Fisheries' Biological Opinion

26. On March 5, 1999, the Commission submitted its Biological Assessment to NOAA Fisheries, along with a request to initiate formal consultation under Section 7 of the

[24] 16 U.S.C. § 797(e).

Endangered Species Act.[25] The Biological Assessment concluded that PG&E's proposal is not likely to jeopardize the continued existence of the threatened salmonids in the Eel or Russian Rivers, or to result in the destruction or adverse modification of any designated critical habitat for these species. NOAA Fisheries initiated formal consultation on August 19, 1999. On September 16, 1999, California Coastal Chinook salmon were listed as threatened under the ESA.[26]

27. On January 14, 2000, following the draft EIS, NOAA Fisheries filed a Draft Biological Opinion, which concluded that the PG&E proposal is likely to jeopardize the continued existence of the threatened Eel River salmonids. Comments on the draft Biological Assessment were filed by the Commission staff, PG&E, and others. The final EIS, issued in May 2000, concluded that the staff-recommended PVID alternative is not likely to jeopardize the threatened salmonids or adversely modify their critical habitat.

28. On November 21, 2000, following the final EIS, NOAA Fisheries issued a Second Draft Biological Opinion, which included a jeopardy opinion on the PVID alternative. Comments on the Second Draft Biological Opinion were provided to NOAA Fisheries and filed with the Commission by PG&E, Sonoma County, Mendocino Water & Power, Friends, and Commission staff. On April 4, 2001, the Tribes filed a response to the comments of PG&E, Sonoma, Mendocino Water & Power, and Commission staff.

29. The Commission, by letter issued July 12, 2001, requested that NOAA Fisheries suspend preparation of its Final Biological Opinion on the original PVID alternative while the Commission staff completed review of the modified PVID alternative. PG&E concurred in this request and expressed support for the modified PVID alternative. The Commission's May 7, 2002 letter declining to adopt the modified PVID alternative or prepare a supplemental EIS requested that NOAA Fisheries resume preparation of its Biological Opinion.

30. On November 29, 2002, NOAA Fisheries filed with the Commission a final Biological Opinion, which makes a jeopardy finding on the PVID alternative, includes a Reasonable and Prudent Alternative to remove the jeopardy, and attaches Essential Fish Habitat Conservation Recommendations for Pacific coast salmon, pursuant to the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens

---

[25] 16 U.S.C. § 1536. The BA consists of a cover letter explaining staff's conclusions and the relevant analysis in the February 23, 1999 draft EIS.

[26] 64 Fed. Reg. 50,394 (Sept. 16, 1999).

Act).[27] On December 31, 2002, the Commission issued public notice of the final Biological Opinion and a request for comments.[28]

31. Comments on the Final Biological Opinion were filed with the Commission by Sonoma, PVID, Friends, Mendocino Water & Power, PG&E, Interior, Humboldt, CDFG, and the Tribes. The Tribes also filed comments in response to the comments on the Biological Opinion of other parties.

32. On March 1, 2003, CDFG filed new data concerning returns of upper Eel River steelhead. Responses to CDFG's submittal were filed by NOAA Fisheries, the Tribes, PG&E, and Humboldt.

7. Requests for Interim Relief

33. On February 12 and March 13, 1999, the Tribes and NOAA Fisheries, respectively, filed motions asking the Commission to order increased minimum flows to protect Eel River salmonids.[29] NOAA Fisheries requested implementation of the flows in PG&E's proposal, which PG&E voluntarily implemented on an interim basis on April 1, 1999.

34. On December 1, 2000, Interior and NOAA Fisheries filed a motion requesting an order establishing the DOI/NMFS alternative's flow schedule as interim minimum flows pending a final order in this proceeding, modified to account for the need to make flow control modifications to Cape Horn Dam and to upgrade the streamflow gauge on Tomki Creek[30] before the DOI/NMFS flow schedule can be fully implemented. Answers opposing Interior's and NOAA Fisheries' motion were filed by PG&E, Sonoma, and Mendocino Water & Power.

---

[27] 16 U.S.C. §1801 et seq.

[28] 68 Fed. Reg. 763 (January 7, 2003).

[29] NOAA Fisheries requested PG&E's proposed minimum flows. The Tribes proposed generally higher minimum flows. On February 25, 1999, staff conducted a meeting in Ukiah to discuss the possibility of interim flows.

[30] Tomki Creek is an unregulated creek that flows into the Eel River about three miles downstream from Cape Horn Dam. It is a major spawning area for wild salmon. Its location is shown on Figure 2 to NOAA Fisheries' Biological Opinion.

35. On September 27, 2000, the Tribes, citing NOAA Fisheries' Draft Biological Opinion, renewed their February 12, 1999 motion requesting interim flows based on their proposed alternative.[31] PG&E filed an answer in opposition.

36. On March 5, 2002, Cal Trout filed a motion asking the Commission to convene a conference of the parties and thereafter publish a schedule for further procedures through the conclusion of the proceeding, including disposition of all motions for interim relief.[32]

37. On May 20, 2002, the Tribes filed a letter urging the Commission to adopt as an interim flow regime the flows in NOAA Fisheries' second draft Biological Opinion.

38. On June 10, 2002, Cal Trout filed a request for action on all pending motions for interlocutory relief and, on November 6, 2002, it filed a renewal of that request.

II. DISCUSSION

A. Friends' Procedural Concerns

39. Friends, citing FPA Section 10(a)(1)'s[33] requirement that all licensed projects must be "best adapted to a comprehensive plan" for the development of the waterway, asserts that processing of PG&E's application should be stayed, or the application denied, because the Commission has not prepared a comprehensive management plan for the Eel River Basin.[34] Section 10(a)(1) does not require the Commission to prepare a single comprehensive plan against which an application is measured; rather, it requires the Commission to develop a record in the proceeding on all aspects of the beneficial public uses relating to the comprehensive development of the waterway or waterways involved.[35] That we have done.

---

[31] In this filing, the Tribes withdrew their previously stated support for Interior's recommended interim flow regime and recommended greater flows.

[32] On May 13, 2002, the Tribes filed notice of intent to file suit against the Commission and PG&E for redress of ongoing violations of the ESA, citing ESA Sections 7(d) and 9, 16 U.S.C. §§ 1533(d) and 1538, respectively. However, no suit has been filed.

[33] 16 U.S.C. § 803(a)(1).

[34] Friends' comments on Draft EIS at p. 5.

[35] LaFlamme v. FERC, 945 F.2d 1124 (9th.. Cir. 1991). See also Cowlitz Basin 1, L.P., 62 FERC ¶61,165 at 62,150 (1993); and Northwest Power Co., 59 FERC ¶61,132 at 61,492 (1992).

40. Friends also assert that the Forest Service has failed to comply with interagency consultation and environmental review requirements of various statutes[36] before providing the Commission with recommendations on PG&E's application.[37] Whether the Forest Service is in compliance with any applicable statutory requirements other than those of the Federal Power Act is not a matter to be determined by this Commission.

B. The Environmental Impact Statement

41. Section 102(2)(E) of the National Environmental Policy Act (NEPA)[38] requires the Commission to examine a reasonable range of alternatives to a proposed action. The range of alternatives that must be discussed is a matter within an agency's discretion,[39] and narrows as environmental impacts lessen.[40] The discussion of alternatives need not be exhaustive, but must provide sufficient information to permit a reasoned choice of alternatives.

1. Alternatives Considered

42. The final EIS considers six alternatives: no-action (denying PG&E's application and continuing the Article 38 flows), PG&E's proposal, and alternatives offered by Sonoma, the Tribes, DOI/NMFS, and PVID (which is endorsed by PG&E and CDFG). Each action alternative includes a proposed flow regime[41] and non-flow measures to protect aquatic resources. The EIS analyzes each alternative for its impacts on Eel and Russian River basin water quality and quantity, aquatic ecosystems and fishery resources,

---

[36] Friends cite FPA Section 4(e), 16 U.S.C. §797(e); the National Forest Management Act, 16 U.S.C. § 1600 et seq.; the ESA; the Wild and Scenic Rivers Act, 16 U.S.C. §1721 et seq.; and the National Environmental Policy Act (NEPA), 42 U.S.C. § 4321 et seq.

[37] Friends Comment on Draft EIS at pp. 7-8.

[38] 42 U.S.C. § 4332(2)(E).

[39] See Vermont Yankee Nuclear Power Corp. v. NRDC, 435 U.S. 519, 551-52 (1976).

[40] See, e.g., New York City v. U.S. Department of Transportation, 715 F.2d 732, 743 n. 11, 745 (2nd. Cir. 1983), cert. denied, 465 U.S. 1055 (1984); Olmstead Citizens for a Better Community v. U.S., 793 F.2d 201, 208 (8th. Cir. 1986).

[41] Detailed descriptions of the alternatives are found in EIS Sections 2.2.2 through 2.2.6 (pp. 2-18 to 2-40) and Appendix B.

recreation, and the economy in the context of other factors cumulatively affecting the resources of concern, such as population trends and land use patterns and practices.[42]

43. All of the alternatives are premised on the general idea of mimicking the pattern of unregulated flows in the upper Eel River. Each alternative has seasonally variable minimum flow schedules, but there is no consistency among the alternatives as to applicable time periods or how the flow schedules are calculated. Depending on the alternative, the values may be fixed for a period of time or may be variable and calculated as a function of water year type or current reservoir (Lake Pillsbury) storage volume.[43] The flow schedules may be further adjusted up to three times a day as a function of another measurable hydrologic variable, such as flows in a representative unregulated tributary stream.[44] Some of the alternatives also incorporate ramping requirements.[45]

44. Although most of the action alternatives differ in terms of the timing and magnitude of flow releases, all of them provide a stable minimum flow in the Eel River of 200 cubic feet per second (cfs) in the spring and a period of down-ramping in June-

---

[42] Cal Trout contends that the Commission is required to evaluate as separate alternatives the terms and conditions submitted by the Forest Service, purportedly pursuant to FPA Section 4(e), and the conditions recommended by the California State Water Resources Control Board (State Water Board) in a water quality certification issued pursuant to Clean Water Act Section 401, 33 U.S.C. § 1341. Comments on Draft EIS at p. 2. The Forest Service's conditions are limited in scope (see discussion in Section VII) and do not constitute an alternative to any of the alternatives examined. The conditions were moreover not finalized until after the Final EIS was issued. As discussed below in Section V, the State Water Board has not sought to require water quality certification.

[43] For instance, PG&E's proposal establishes minimum release schedules for six periods during the year, while Sonoma's has five periods. The Tribes' release schedules also apply to five periods, but the periods are different from Sonoma's. Sonoma classifies water years as normal, dry, or critically dry; the Tribes classify water years as very wet, wet, dry, or very dry.

[44] The PG&E, PVID, and Sonoma alternatives index Eel River flow requirements to flows in Tomki Creek. Interior's and the Tribes' alternatives index Eel River flows to inflow to Lake Pillsbury.

[45] Table 2.3-1, EIS at pp. 2-43 and 2-44, illustrates the complexity of the flow calculations under the action alternatives by comparing their major flow components.

July to low summer flows[46] Increased releases during average water years would range from 19,000 ac-ft to 29,000 ac-ft, compared to the no-action alternative.[47] Minimum releases at Cape Horn Dam would generally be significantly higher under the Tribes' alternative than under other alternatives and would apply during summer and winter regardless of Lake Pillsbury inflow or water year classification. Under this alternative, releases to the Russian River would be constrained to ensure that Eel River flows have higher priority. This is true to a lesser degree under all of the action alternatives except Sonoma, which essentially maintains the status quo.

45. The greatest differences among the alternatives are found in dry and critically dry years. During such periods, the PG&E, Sonoma, and PVID alternatives would reduce minimum flows into the Eel River. Under the DOI/NMFS alternative[48] Eel River minimum flows would be maintained by curtailing deliveries to PVID. In the year of record drought, the Tribes and DOI/NMFS alternatives would release more water into the Eel River than during an average water year.[49]

46. The differences in flow releases among action alternatives have attendant and commensurate effects on the storage levels in Lake Pillsbury and, secondarily, Lake Mendocino. Again, this is principally a concern during critically dry years. At such time, storage volumes remaining in Lake Pillsbury at the end of the water year (September 30) show a wide disparity, from 1,000 ac-ft (DOI/NMFS) to 19,000 ac-ft (PG&E), with the PVID alternative at 11,000 ac-ft.[50]

---

[46] Figure 2.2-1, EIS at p. 2-12, illustrates the difference between Eel River minimum flows under Article 38 and each action alternative over a selected five-year period (1975-1979). The water conservation measures included in some alternatives result in flow caps of less than 200 cfs in some very dry years.

[47] See EIS at p. 5-3, Figure 5.5-1.

[48] The Tribes endorse the DOI/NMFS alternative. See Tribes' filing of May 11, 1999. The Forest Service EA finds that the DOI/NMFS alternative is consistent with its conditions.

[49] By way of illustration, minimum flow releases to the Eel River during the year of record drought would range from 3,600 ac-ft (Sonoma County) to 31,500 ac-ft (Tribes) greater than the existing Article 38 flows. The PVID alternative would release 11,200 additional acre feet under this condition.

[50] EIS at p. 5-4, Figure 5.1-2. The impacts on Lake Mendocino levels also vary widely, with end of water year (September 30) levels ranging from 3,000 ac-ft (Interior) to 34,000 (PG&E), with the PVID alternative at 28,000 ac-ft. The impacts are somewhat attenuated by the fact that Lake Mendocino receives inflow from sources other than the

(continued…)

47. All of the action alternatives except the Tribes' provide for an annual block of water to be released at the discretion of the resource agencies to maintain above-minimum flows, reduce scheduled flow reductions, or otherwise sustain and enhance salmonid spawning and egg incubation.[51] The particular block water formulas vary. PG&E and PVID would provide 5,000 ac-ft per year.[52] DOI/NMFS would provide 2,500 ac-ft.[53] Sonoma would reserve from 2,000 to 5,000 ac-ft, depending on cumulative inflow to Lake Pillsbury.[54]

48. Like the Article 38 flow regime, the PG&E proposal has an Emergency Operations provision, pursuant to which minimum flow releases would be reduced by 50 percent at Scott and Cape Horn Dams and the Potter Valley powerhouse whenever Lake Pillsbury storage volume drops below a specified level, essentially in drought years.[55] No other alternative has a comparable provision. The PVID alternative provides that under these conditions PVID would receive normal deliveries.[56] Under the Sonoma alternative, there would be no curtailments in Russian River deliveries, regardless of water conditions.[57] The Tribes would curtail releases to the Russian River to ensure that its Eel River minimum flow recommendations are met.[58] DOI/NMFS would reduce deliveries to

---

(continued…)
Potter Valley Project discharge.

[51] See EIS at p. 2-44, table 2.3-1.

[52] EIS at pp 2-21, 2-39.

[53] EIS at p. 2-37.

[54] EIS at p. 2-25; Sonoma Comments on Final EIS at p. 11.

[55] EIS at p. 2-23.

[56] EIS at p. 2-39. These increased deliveries would be compensated for by reducing East Branch RR flows to 5 cfs. The PVID alternative also contains provisions that would allow them to defer delivery of water (by storing it in Lake Pillsbury) at times when its demands are low, and to receive it at a higher rate (i.e., more than 50 cfs) later in the growing season.

[57] EIS at p. 2-26.

[58] EIS at p. 2-33.

PVID by 50 percent, but maintain a minimum flow requirement for the East Branch RR.[59]

49. Each of the action alternatives also includes a package of non-flow enhancement measures. The PG&E & PVID alternatives include:

- Upgrading the Tomki Creek gauge for more precise low-flow measurements and telemetry of the measurements;
- Modifications to Cape Horn Dam for better regulation of flow releases;[60]
- Continued releases of warm water from Scott Dam during the late winter/spring period to promote timely outmigration of juvenile Chinook salmon;
- $20,000 annually to fund employment of an aide at CDFG's Van Arsdale Fishery Station;
- Funding of annual Chinook salmon carcass surveys;
- $10,000 annually for pikeminnow[61] suppression; and
- Up to $30,000 annually for CDFG's Chinook salmon and stock rescue program.[62]

50. All of the other alternatives include some of these elements, but have some differences, depending on the perspective of its sponsor. The Sonoma alternative is essentially the same.[63] The Tribes' alternative includes, in addition to funding for an aide at Van Arsdale and the stock rescue program, additional installation and upgrading of flow gauges, improvements to the fishway and fish handling facilities at Cape Horn Dam,

---

[59] EIS at p. 2-37.

[60] The Cape Horn Dam is currently capable of accurately measuring flow releases only to 115 cfs. See letter to the Commission from PG&E filed March 15, 1999, at p. 2. The proposed modifications would enable flow releases to be accurately measured up to 200 cfs. Joint Recommendations at p. 8.

[61] Pikeminnow are an introduced predator of salmonids that have become a serious problem in the Eel River basin.

[62] EIS at pp. 2-23 and 2-24.

[63] EIS at pp. 2-29.

additional gates at Cape Horn and Scott Dams, and an assessment of potential fish habitat improvements. The Tribes would have a limited pikeminnow suppression program, because they expect their streamflow recommendations to diminish pikeminnow habitat. The DOI/NMFS alternative would provide all of the proposed measures, plus two new gauges to measure unimpaired flow in tributaries to Lake Pillsbury.[64]

51. PG&E filed an implementation and compliance plan for its proposed flow regime. The PVID alternative adopts this plan.[65] Sonoma's alternative does not specifically provide for an implementation and compliance plan, but relies instead on flow gauge upgrades and the real-time dissemination of gauge readings to the agencies and the public to ensure compliance with the flow regime.[66] The Tribes alternative similarly relies on existing and additional flow gauges and various capital improvements to ensure compliance.[67] The DOI/NMFS alternative would have PG&E submit a revised Implementation and Compliance plan that conforms with the DOI/NMFS flow regime, maintain a website at which flow measurements could be reviewed by the resource agencies and the public, and develop a new indexing equation based on two years of data from the upgraded Tomki Creek gauge and two new gauges above Lake Pillsbury.

52. The EIS recommends adoption of the PVID alternative because it provides the best overall balance of all public interest considerations by substantially benefiting threatened salmonids while minimizing risks to the Russian River Basin economy that could be harmed by reductions in the Potter Valley diversion.[68] However, as discussed in Section III, we are amending the license to incorporate the terms of the Reasonable and Prudent Alternative included with NOAA Fisheries' Biological Opinion, which closely resembles, but is not identical to, the DOI/NMFS alternative.

---

[64] EIS at p. 2-38.

[65] EIS at p. 2-40.

[66] EIS at pp. 2-28 and 2-29.

[67] EIS at p. 2-33.

[68] EIS Table 2.3-5 at p. 2-52 presents a ranking of the action alternatives for eight resources under consideration relative to the no-action alternative under average and worst case conditions. Explanatory discussion appears in Section 2.3.4, at pp. 2-51 to 2-53.

2. Alternatives Not Considered

53. Several entities contend that the EIS should have examined decommissioning of the project because federally-listed threatened species are involved.[69] The license does not expire until 2022, and cannot be terminated without the consent of the licensee or revoked in the absence of the licensee's knowing failure to comply with a Commission order issued in the context of a compliance proceeding.[70] We are moreover confident that the EIS analysis and recommendations are sound. In any event, neither the Reasonable and Prudent Alternative provisions nor any of the action alternatives will jeopardize the continued existence of the affected species, and both the PVID alternative and Reasonable and Prudent Alternative should improve the prospects for recovery of the Eel River fishery.

54. Friends argue that this proceeding is merely a continuation of the 1983 license proceeding, which they state is not final because of the requirements of Article 39. Thus, they assert, decommissioning would not require revocation of the license.[71] In fact, judicial review of the license order was sought by Cal Trout and the Covelo Indian Community. The court dismissed their petitions, making issuance of the license administratively final.[72] That this license, like a great many others, provides for adjustments to project operations based on post-licensing studies or consultations makes it no less final.

55. NOAA Fisheries asserts that the no-action alternative has been improperly defined.[73] It states that continued operation under Article 38 is barred by Article 39 and the ESA because it would not benefit the Eel River fishery. Thus, urges NOAA Fisheries, if the Commission did select this alternative, it would be required to order the project to shut down, so the "real" no action alternative would be pre-project, run-of-river flows. NOAA Fisheries' argument has two flaws. First, nothing in Article 39 prohibits

---

[69] Comments on Draft EIS of Sierra Club at p. 2, CSPA at p. 2, Friends at p. 10, and Cal Trout at p. 10. Comments of NOAA Fisheries on EIS at pp. 2-4 and EPA at pp. 1-2. Some parties refer to this as a "no diversion" alternative. Ending diversions from the Eel River would shut down the project, as the only source of water for the Potter Valley powerhouse is the diversion at Van Arsdale.

[70] See FPA Section 31, 16 U.S.C. § 823(b).

[71] Friends' July 19, 1999 Supplemental Comments on Draft EIS at pp. 1-2.

[72] Covelo Indian Community, et al. v. FERC, 895 F.2d 581 (9th Cir. 1990).

[73] NOAA Fisheries Comments on EIS at pp. 1-2.

the continuation of the Article 38 flows. Article 39 simply requires a study and changes in the Article 38 flows if the Commission finds such to be necessary. Second, NOAA Fisheries misapprehends the purpose of the no-action alternative, which is to establish baseline environmental conditions for determining the impacts of the action alternatives.[74]

56. NOAA Fisheries also asserts that we should have considered as an alternative future water-resource development initiatives being pursued by Sonoma and others to increase the storage and conveyance capacity of water systems in the Russian River basin. NOAA Fisheries states that any one or a combination of such initiatives may obviate any need for diversions from the Eel River.[75] The only specific proposal NOAA Fisheries mentions is raising the height of the federal Coyote Valley Dam, which impounds Lake Mendocino, by 20 to 40 feet. This proposal would require, among other things, Congressional authorization for Corps studies and construction, federal funding, a 25-percent local cost-sharing partner, compliance with the ESA concerning federally-threatened fish stocks in the Russian River basin, and evaluation of seismic risks.[76] None of these elements is in place, which renders this proposal wholly speculative and therefore not a reasonable alternative.

3. Computer Modeling

57. The proper use of computer models is perhaps the most vigorously contested aspect of this proceeding. Each alternative flow regime consists of a complex set of operating rules defining minimum flow releases at three control points in the Potter Valley system:

---

[74] As is our practice, we used existing environmental conditions as the baseline for measuring the environmental impacts of the alternatives. Various parties contend that the baseline should be conditions as they were before the project was constructed in 1912. See, e.g., Tribes' Comments on EIS at pp. 5-6; NOAA Fisheries letter filed June 21, 1999. Our practice in this regard has however been judicially affirmed. See American Rivers, et al. v. FERC, 103 F.3d 1007, 1015-1022 (9th Cir. 1999); Conservation Law Foundation v. FERC, 216 F.3d 41 (D.C. Cir. 2000). We have moreover recently rejected calls to change our policy. See Notice of Proposed Rulemaking in Docket No. RM02-16-000, 68 Fed. Reg. 13,988 at 13,995 (Mar. 21, 2003), FERC Stats. & Regs. ¶ 32,568 at 34,706 (Feb. 20, 2003). In that proceeding we established the new integrated licensing process. See Order No. 2002, 68 Fed. Reg. 51,070 (Aug. 23, 2003), IV FERC Stats. & Regs. Preambles ¶ 31,150 (July 23, 2003).

[75] NOAA Fisheries Comments on EIS at pp. 4-5.

[76] See EIS, pp. 2-10 and 2-11.

Scott Dam, Cape Horn Dam, and the Potter Valley powerhouse.[77] Each alternative was developed by its proponent using different computer models, different input data sets, and/or different reservoir operating rules.[78] These differences make direct comparison of alternatives a very complex exercise.

58. In the EIS, water balance models were used to predict daily flow regime produced by each alternative, and estimates were made of the impacts of these flow regimes on water storage and biological, habitat, and other impacts. The parties expended considerable effort to develop models that would accurately and objectively characterize the impacts of the various alternatives.[79] Staff used the parties' models as much as possible in its analyses. Although consensus was reached in some areas, there remain some disputes concerning the modeling approach used in the EIS.

(a) Eel River Models

59. To model the Eel River flow for all alternatives, staff used a model developed by Interior and its consultant. Staff's application of the Interior model uses a 21-year daily flow record (1975-1995) that was assembled by PG&E's consultant to represent the inflow to Lake Pillsbury and the unregulated drainage between Lake Pillsbury and Cape Horn Dam. PG&E's inflow data was originally based on U.S. Geological Survey stream and reservoir gauging records, but was adjusted to remove measurement error and normalized to preserve total annual discharge from the Upper Eel watershed.[80] This modeling approach preserves the day-to-day variability of inflow that is important for biological analysis, and it was generally supported by PVID, PG&E, and CDFG.

60. Interior, NOAA Fisheries, and the Tribes allege that staff's application of the computer models and data inputs is flawed.[81] Interior's preferred modeling of Eel River flows uses a Lake Pillsbury inflow data set that is composed of weekly average data

---

[77] Complete descriptions of each flow alternative are found in Chapter 2 of the EIS.

[78] The various models are more specifically described in EIS Section 4.1.1 (pp. 4-2 to 4-10) and Appendix C.

[79] As discussed above, staff conducted two workshops and solicited written comments in an attempt to reach consensus.

[80] See EIS at pp. 4-6.

[81] Interior Comments on EIS at pp. 4-16; NOAA Fisheries Comments on EIS at pp. 5-7; Tribes' Comments on EIS at pp. 10-14.

instead of daily data, and uses data from a 67-year period (1929-1995).[82] The weekly back-averaging was used to smooth out anomalous errors that often result when inflow is estimated from reservoir volume and river discharge measurements. However, the back-averaging approach tends to dampen day-to-day variability, and it shifts the apparent timing of inflows slightly backwards in time. Interior claims that staff's approach produces estimates of minimum storage levels in Lake Pillsbury that are too low in the DOI/NMFS alternative, which in turn causes the EIS to reach erroneous conclusions concerning impacts on water resources, fisheries, bald eagles, and recreation.[83] Using its input data set, Interior's model shows significantly greater inflow and different inflow timing to Lake Pillsbury.[84] This assumed additional water supply allows Interior to provide for greater minimum flows to the Eel River with a lesser predicted effect on Lake Pillsbury levels.[85]

61. Interior and the Tribes assert that flows derived from the 67-year period are more likely to be representative of the study area, because they are based on a longer period than the 21-year period used in the EIS. The staff approach is more conservative, because the more recent 1975-1995 period is significantly drier, and, because this period is closer in time to the period during which this amendment will apply (i.e., the remainder of the license term), it is more likely to reflect that period.[86] Because the principal purpose of this proceeding is to develop measures to protect federally-threatened salmonids, we conclude that staff's more conservative approach to predicting water supply is prudent, because it is important not to overestimate the amount of water available to benefit the salmonids. Staff's approach is also less likely than the approach

---

[82] Lake Pillsbury inflow is not an actual measurement, since inflow to the lake is ungauged. Rather, it is an estimate based on lake level and flow data from a stream gauge located downstream of Scott Dam. The methods used to assess the impacts on each resource under consideration are described at the beginning of each resource impacts discussion in Chapter 4 (e.g., Fisheries, Section 4.2.1; Recreation, Section 4.3.1; Economics, Section 4.4.1) and in the appendices. The alternative flow proposals are compared in relation to the various index variables at EIS pp. 2-42 to 2-47 and accompanying table 2.3-1.

[83] Interior Comments on EIS at pp. 9-11.

[84] 316,000 ac-ft v. 234,000 ac-ft under staff's application of the computer models and data inputs. Tribes' Comments on EIS at p. 13; Interior Comments on EIS at p. 12.

[85] The other element of the DOI/NMFS alternative that protects Lake Pillsbury levels and Eel River minimum flows is reduced exports to PVID in very dry years.

[86] See EIS, p. 2-42.

taken by Interior to overestimate the amount of water available for other uses, and so reduces the likelihood of not identifying shortages of water for those other uses.

62. Staff also used daily flow data in its biological analysis, which is based on the water balance model, because various life-cycle factors considered in the biological analysis, such as upstream salmon migration, can be influenced by very short-term changes in flows. Interior's use of weekly flow data tends to smooth out the hydrograph, which has the effect of muting biologically important events, such as pulse flows from storms, which stimulate migration timing and success. Interior states that weekly or even monthly flow data suffices because over time the discrepancies will tend to cancel one another out.[87] However, the consistent use of daily data permits a more precise analysis, which we conclude is a superior approach.

(b) Russian River Models

63. To model the Russian River, the staff used a water balance model and a water rights allocation model developed by Sonoma to determine the amount of water that could be diverted from the Russian River, subject to existing riparian and appropriative water rights. These models were used to predict curtailments of deliveries to the Russian River under each of the alternatives, and the resulting effects on agriculture, recreation, and power production.[88]

64. Interior and the Tribes allege various deficiencies in the Sonoma water balance model.[89] The cumulative result of these alleged errors is an overestimate of the drawdowns of Lake Mendocino and curtailments in the Russian River basin under the DOI/NMFS alternative, with a concomitant overestimate of that alternative's economic impacts. Sonoma agreed that some of these criticisms were appropriate and disagreed

---

[87] Interior Comments on EIS at p. 11.

[88] See EIS at p. 4-95. Interior and Sonoma both filed revised versions of the original Sonoma Russian River model, but they were submitted too late for consideration in the final EIS. Interior response to Sonoma's comments on the DOI/NMFS proposal and Revisions to Sonoma's Final Flow Proposal, filed December 2, 1999. Sonoma filing of March 17, 2000.

[89] These include failure to account for rainfall on Lake Mendocino and to include curtailments under dry spring conditions, use of excessive margins of safety during dry and critically dry periods, failure to include minimum flow reductions specified by State Water Board Decision 1610 when spring storage levels in Lake Mendocino fall below 30,000 ac-ft, various programming errors, and failure to convert the Middle Russian River unit of the water allocation model from cfs to ac-ft. Interior Comments on EIS at pp. 13-16 and Tribe Comments on EIS at pp. 10-11.

with others. One area of disagreement is the appropriate "prudent reserve" for Lake Mendocino which , as defined by Sonoma, is the amount of water that should remain in that lake at the end of each water year to ensure that the reservoir will not be dewatered during the following year, should it be a critically dry year. Sonoma, not surprisingly, takes a more conservative approach to defining the prudent reserve for Lake Mendocino than the Tribes and Interior, who are more concerned with the Eel River fishery.

65. For its part, Sonoma claims that the EIS's application of the Russian River model fails to make reasonable assumptions about the risk that Lake Mendocino will be dewatered. Sonoma asserts that the margins of safety it used (that is, flow over-releases made intentionally to ensure that downs minimum flow requirements will be met) are based on long years of operating experience in the Russian River Basin, while Interior's less conservative margins of safety can be modeled, but are insufficient and untested by experience. In addition, Sonoma claims that crop price inputs to the economic analysis were underestimated.[90] A revised version of its model that makes the corrections recommended by Interior and agreed to by Sonoma, but that uses dewatering risk levels and crop prices that Sonoma believes are more appropriate shows that curtailments in the Russian River basin are much more likely to occur under the PVID and DOI/NMFS alternatives than under the Sonoma alternative and are likely to have much greater economic effects.[91]

66. We decline to engage in any further consideration of disputed Russian River modeling techniques and data input assumptions. The fundamental fact is that, under any version of the Sonoma models, all of the alternatives (including no action) show substantial water shortages in the Russian River basin in the year 2022 (end of license term).[92] This indicates increasing potential over time for negative impacts on Russian River basin resources in dry years from all of the action alternatives, and especially those with the greatest reductions in diversions to the Russian River. The magnitude of these potential economic impacts cannot be predicted with accuracy, because the predictions depend on numerous assumptions on which reasonable people can disagree, such as acceptable levels of risk or volatile data inputs such as crop prices, and may also be affected by future water supply projects, population growth rates, and other difficult to predict factors.

67. In sum, we conclude that the computer models and data sets used in the EIS adequately model the hydrology of the Eel and Russian Rivers and the various

---

[90] Sonoma Comments on EIS at pp. 5-6, citing Sonoma filing of March 17, 2000.

[91] Sonoma Comments on EIS at pp. 5-8, 11-13.

[92] See EIS, Appendix C at p. C-3.

alternatives, and therefore provide a reasonable basis for the biological and economic analyses in that document. We turn now to the aspects of those analyses where there are significant disputes.

C. Fisheries

68. The principal environmental issue in this proceeding is the impacts of the various action alternatives on the Eel River salmonid fishery. Both the Eel and Russian Rivers historically supported large salmonid fisheries. Estimates of peak annual returns range from tens of thousands for the Russian River to 500,000 for the Eel River. A combination of dam construction and habitat destruction from extreme flood events (which may be exacerbated by logging) and developmental activities, including fish harvest, logging, agriculture, and other consumptive uses, has caused these populations to decline dramatically, and all of these causes are overlaid on natural cyclical patterns in abundance of these fish.[93]

69. The principal fish resources in the upper Eel River are fall run Chinook salmon and steelhead trout, both of which migrate the length of the river and spawn in the mainstem and tributaries up to the reach between Cape Horn and Scott Dams. Coho salmon are also present, but are usually concentrated well downstream of the Potter Valley Project in the South Fork Eel River, outside of any significant influence of Potter Valley operations.[94] Eel River Chinook salmon, coho salmon, and steelhead are federally listed under the ESA as threatened.[95]

70. The flow level and release patterns of the Potter Valley Project affect the availability and quality of habitat, timing of upriver migration of spawning adults,

---

[93] See EIS Section 3.2.2-3.3.4 at pp. 3-26 to 3-31.

[94] There are several important tributaries to the Eel River downstream between Cape Horn Dam and the ocean, including the Middle Fork near the town of Dos Rios, and the South Fork. EIS Figure 3.2-2 at p. 3-11 illustrates the relative contribution of runoff from above Cape Horn Dam to river flows under different water-year conditions at various downstream locations.

[95] Southern Oregon/Northern California Coastal ESU of coho salmon, 62 Fed. Reg. 24,588 (May 6, 1997); critical habitat designated, 64 Fed. Reg. 24,049 (May 5, 1999). California Coastal ESU of Chinook salmon, 64 Fed. Reg. 50,394 (Sept. 16, 1999), critical habitat designated, 65 Fed. Reg. 7,764 (February 16, 2000), vacated National Assn. of Home Builders v. Evan, Memorandum Order, D.C. Cir. No. 00-2799 (April 30,. 2002); Northern California ESU of steelhead, 65 Fed. Reg. 36,074 (June 7, 2000); critical habitat not yet designated.

spawning success, juvenile growth, down-river emigration of smolts, and, to a lesser degree, the preferred water temperatures for these activities. Other factors that affect Eel River salmonids include habitat loss, predation, hatchery supplementation, ocean conditions, the performance of upstream and downstream fish passage facilities at the project, and commercial and recreational harvest. All these factors were considered in the Article 39 study and in the EIS.[96]

71. All the action alternatives will enhance habitat conditions in the upper Eel River for coho and Chinook salmon by changing flow and release patterns to better reflect unregulated streamflows, increase the volume of water in the river at critical times and, to a lesser extent, provide water temperature improvements. All of the alternatives provide improved flows for spawning, incubation, and juvenile rearing habitat, and outmigration flows. The Tribes' and DOI/NMFS' alternatives provide slightly higher habitat values in the Eel River, especially in drought years.[97] The Sonoma alternative provides less protection during drought years, because it retains full diversions to the Russian River basin. The PG&E and PVID alternatives improve flows for all stages except during very dry years, when they do not provide fall attraction flow pulses to encourage salmonids to move upstream. This, however, can be mitigated under these alternatives by the use of the agencies' reserved water block.[98]

72. Conditions for Eel River steelhead would also be enhanced under all the action alternatives. The Tribes' and DOI/NMFS alternatives would produce slightly higher habitat values during average years and clearly higher values during drought years.[99] The Sonoma alternative provides the lowest flows and least habitat for steelhead during drought years, for the same reasons it does so for Chinook salmon.[100]

73. The Tribes' alternative has some advantages over the other alternatives with respect to Eel River fish passage and habitat conditions, because it provides better habitat conditions in critically dry years and the summer months in all years by maintaining higher minimum flows at those times. The Tribes' alternative may however be counterproductive, because it has a significantly greater chance of making Lake Pillsbury very low for long periods of time, or draining the lake. This would cause the releases

---

[96] See EIS Section 3.3.6 at pp. 3-33 to 3-42.

[97] EIS at pp. 4-73 and 4-74.

[98] See EIS at pp. 5-6 and 5-7.

[99] EIS at p. 4-73.

[100] EIS at pp. 4-73; 4-68 to 4-70.

from Scott and Cape Horn Dams to have elevated temperatures, which would adversely affect the threatened salmonids, which require cool water.[101] It would also have negative effects on recreation.

74. Sonoma, Interior, NOAA Fisheries, and the Tribes criticize various elements of the EIS's fisheries analysis. We respond below.

1. Sonoma's Arguments

75. Sonoma asserts that various analytical errors cause the EIS to conclude incorrectly that the Sonoma alternative provides less benefit to Eel and Russian River Fisheries than the PVID alternative, and that Sonoma's alternative may in fact provide even greater benefits to these resources.

76. Sonoma states first that its alternative provides higher base flows for steelhead over a longer period of time in the spring than the PVID alternative.[102] This is true, but these higher flows result in a greater drawdown of Lake Pillsbury later in the year. In sum, each alternative has various strengths and weaknesses relative to the others, and this particular advantage of the Sonoma alternative is no cause to revisit our conclusion concerning the overall advantage of the PVID alternative.

77. Sonoma also claims that the EIS finds that biological problems of the PVID alternative, such as poor habitat conditions for Chinook salmon, can be remedied by the use of block water allocations, but that such allocations are ignored or misconstrued in the analysis of the Sonoma alternative.[103] The PVID block water proposal is however significantly different from the Sonoma alternative. The PVID alternative would provide a 5,000 ac-ft block, regardless of conditions. Under the Sonoma alternative, the amount of block water diminishes from 5,000 ac-ft in a normal water year to 2,000 ac-ft in very dry years; yet it is precisely during the very dry years that block water is most important for protecting the threatened salmonids.

---

[101] EIS at pp. 5-4 and 5-10. The Tribes' alternative would also have negative effects on Lake Pillsbury recreation, as would the Sonoma and DOI/NMFS alternatives, and on water use in the Russian River basin.

[102] Sonoma Comments on EIS at pp. 8-9.

[103] Sonoma Comments on EIS at p. 10 and Attachment 2 at p. 2.

2. Upstream Migration

(a) Pulse Flows

78. The timing of pulse flows from Cape Horn Dam used to stimulate upstream migration is critical, because poorly timed pulses may draw fish past the spawning habitat of Tomki Creek or promote spawning in areas that may later be dewatered in dry years.[104] The EIS finds that the PG&E and PVID alternatives are best for guiding fish to existing spawning areas, such as Tomki Creek.[105]

79. The Tribes assert that it is erroneous to assume that drawing fish past their natal stream is detrimental, because such straying is not uncommon, and fish may return downstream to spawn. The Joint Recommendations concluded however that this is a significant concern.[106]

80. The Tribes add that the PVID proposal would discourage salmon use of the reach between Cape Horn and Scott Dams. The Tribes appear to assert that the EIS should have examined whether fish passage facilities and operations at Cape Horn Dam should be modified to accommodate or encourage migration into the Cape Horn-Dam-to-Scott Dam reach instead of discouraging it.[107] Under the PVID alternative, however, Eel River flows at the confluence with Tomki Creek would generally be a substantial multiple of Tomki Creek flows, which will ensure that there are flows to continue drawing migrating salmon and steelhead into the Cape Horn Dam-to-Scott Dam reach.[108] Moreover, the fish ladder at Cape Horn Dam is operated by CDFG, which historically has operated the ladder to allow migration into this reach. We have no reason to think it will not continue to do so.

(b) Passage Flows

81. Upstream migration of salmonids requires adequate flow at critical riffles during migration periods. Minimum-flow and pulse-flow releases at Cape Horn Dam affect these flows. The EIS evaluated the adequacy of flows at all critical riffles in the upper

---

[104] EIS at pp. 3-4 and 3-5.

[105] EIS at pp. 4-56 to 4-58 and 4-87.

[106] Joint Recommendations at pp. 3, 9.

[107] Tribes' Comments on EIS at pp. 7-8.

[108] EIS Table 2.2-3 at p. 2-19. Although this table illustrates the PG&E proposal, this element is identical for the PVID alternative.

Eel River based on flows at Garcia Riffle, which is located about four miles downstream from the confluence of the Eel River and Tomki Creek. The Draft EIS assumed that a flow of 60 cfs at Garcia Riffle would have a passage value of zero percent, increasing to 100 percent at 140 cfs. In response to comments, the Final EIS assumes zero passage at 90 cfs.[109]

82. The Tribes argue that although passage has been observed at flows below 140 cfs, any lower flow should be assumed to have zero passage value, because periodic high flows change the configuration of the riffle, which could decrease passage efficiency at any flow level.[110] PG&E replies that the participants in the Article 39 study chose 140 cfs as an acceptable flow cap for enhancement of all fisheries parameters. It adds that the Article 39 study demonstrates that migration through the critical riffle section occurs regularly at flows in excess of 100 cfs, and frequently at lower values, and is not significantly impaired until flows drop below 50 cfs.[111] We conclude that the Tribes' recommended assumption is unnecessarily conservative, based on the results of the Article 39 study. There is moreover no reason to think that any shifts in the configuration of Garcia Riffle are more likely to decrease existing passage efficiency than to increase it.

3. Pikeminnow Predation

83. The non-native Sacramento pikeminnow first appeared in the Eel River system about 1979. The pikeminnow is a large predatory fish that prefers low-velocity and warm-water river habitats, and large populations have developed in Lake Pillsbury and the Eel River below Scott Dam. This has afffected salmonids through predation and habitat displacement. The worst period of predation is during low-flow, warm-water summer conditions. Various control strategies, (e.g., trapping, explosives, introducing predators of pikeminnow, and chemical eradication) have been attempted or proposed. The EIS states that the actual effect of pikeminnow predation cannot be determined until Eel River trends can be interpreted over several ocean production cycles, which has not yet occurred.[112]

---

[109] EIS at p. D-3.

[110] Tribes' Comments on EIS at p. 8.

[111] PG&E Response to Tribes' Comments on EIS, Appendix C, p. 2, citing SEC 1998, Table 5.3.-4.

[112] EIS p. 3-39. Although it is believed pikeminnow were introduced about 1979, several years of residence were required before the population size and distribution of these predators increased to the point that they became a serious problem.

84. The EIS finds that PG&E's proposal would marginally increase pikeminnow habitat and growth potential by increasing spring and early summer flows. Predation rates would however be reduced, because the increased flows would aid more timely migration, and because low summer flows would cause larger pikeminnow to seek deeper and warmer water away from the salmonid rearing areas.[113] The PVID and Sonoma alternatives would also slightly increase pikeminnow predation rates and populations.[114] The DOI/NMFS and Tribes' alternatives would have effects similar to the other alternatives during the spring in most years, but by providing more pikeminnow habitat would increase the impact of predation during the summer relative to the PVID alternative.[115]

85. NOAA Fisheries and the Tribes criticize the EIS's analysis of pikeminnow predation. NOAA Fisheries questions the efficacy of survey sites used to estimate pikeminnow densities and the EIS' conclusion that there may be a positive correlation between pikeminnow habitat and predation on salmonids. NOAA Fisheries also cites studies which it believes indicate that higher and unimpaired flows decrease exposure to predation.[116] The Tribes assert that the EIS analysis cannot be verified and lacks sufficient detail to evaluate conclusions concerning the relationship between streamflow and predation pressure.[117] NOAA Fisheries also states that the EIS should have comparatively analyzed pikeminnow control program recommendations under the various alternatives.

86. The EIS analysis necessarily rests on many assumptions and relies on a combination of data from studies in the Eel River and elsewhere. Modifying the data sets and hypotheses used in the analysis may produce a somewhat different evaluation of the predator/prey relationship. Any attempt to comparatively evaluate pikeminnow control programs at this time would however be futile, because there are no specific proposals in the record. The essential fact is that all parties agree that pikeminnow predation is a serious problem in the Eel River, and that a control program developed in consultation with the resource agencies and Tribes is necessary. NOAA Fisheries' Reasonable and

---

[113] EIS at p. 4-58.

[114] EIS at pp. 4-71 and 4-86.

[115] EIS at pp. 4-75 and 4-82. CDFG agrees with the EIS that increasing summer flows below Cape Horn Dam is likely to benefit pikeminnow and increase their predation on salmonids. CDFG Comments on Draft EIS at pp. 5-6.

[116] NOAA Fisheries Comments on EIS at p. 7.

[117] Tribes' Comments on EIS at pp. 8-9.

Prudent Alternative, which, as discussed below, we are adopting, includes provisions for such a control program.[118]

4. Reservoir Fisheries

87. The EIS analyzes each alternative's potential impacts on reservoir fisheries in Lakes Pillsbury and Mendocino.[119] It finds that impacts to reservoir fisheries are for the most part related to effects on water levels, and that alternatives[120] which result in lower reservoir levels (i.e., alternatives of DOI/NMFS, Tribes, and Sonoma) have the greatest potential to affect reservoir fisheries.

88. The Tribes contend that this analysis is flawed because it assumes that fishery standing crops[121] are related to reservoir levels at the end of the water year, whereas the reservoirs are regularly stocked.[122] Stocking can compensate for problems with reproductive success, but the DOI/NMFS and Tribes' alternatives are much more likely to drain the lake in very dry years, in which case stocking is ineffective.

89. The Tribes also assert that the reservoir fisheries analysis is not quantified, and that in the analyses the impact to the Lake Pillsbury fishery is given equal weight to analyses to impacts to federally-threatened salmonids.[123] The EIS recommendations are not based on specific weighting criteria for each resource. Moreover, because protection of the federally-threatened salmonids is the impetus for this proceeding, the bulk of the analysis and consideration is devoted to that resource, with appropriate consideration given to the facts that the Lake Pillsbury fishery is important to the recreational economy of the area[124] and protection of the federally-threatened bald eagle.[125]

---

[118] See Article 52; Appendix A, Section F; and Appendix B, Measure 1.

[119] EIS at p. D-9.

[120] This equates to an average of 219 cubic feet per second (cfs) per day.

[121] A "standing crop" is the total number or weight, sometimes by species and/or size range, of fish in a specified body of water.

[122] Tribes Comments on EIS at p. 9.

[123] Id.

[124] See EIS at pp. 3-46 to 3-47 and 4-87 to 4-94.

[125] See EIS at p. 3-44; and Sections III.E and VIII.B below.

90. The Tribes also contend that the recommended alternative fails to mitigate for the loss of anadromous fish habitat in the tributaries to Lake Pillsbury above Scott Dam, which has no fish passage facilities.[126] This is correct, but not germane. Neither NEPA nor FPA Section 10(a)(1) requires that every environmental impact be fully mitigated. NEPA is a procedural statute that requires the federal action agency to take a "hard look" at the environmental consequences of its decisions and reasonable alternatives before it acts.[127] The EIS fully complies with this requirement. FPA Section 10(a)(1) requires the Commission to ensure that license conditions reflect an appropriate balancing of all public interest considerations, which may result in either the diminution or enhancement of any given resource relative to the environmental baseline. In the context of this proceeding, the ESA, as discussed below, requires us to condition the license to ensure that the continued existence of the threatened species is not jeopardized and to assist in their recovery. By adopting the Reasonable and Prudent Alternative and Reasonable and Prudent Measures, we are satisfying the ESA.

5. Non-Flow Provisions

91. The non-flow provisions to protect and enhance aquatic resources under the various alternatives were set forth above in Section II.b.1. We are adopting all the non-flow provisions proposed by PG&E.[128] These measures will assist in the recovery of the threatened salmonids. Two of these, modifications to Cape Horn Dam and the pikeminnow suppression program (albeit at a funding level several times PG&E's proposed level), are included in NOAA Fisheries' Reasonable and Prudent Alternative and Reasonable and Prudent Measures,[129] which we are adopting, as discussed below.

---

[126] Tribes' Comments on EIS at pp. 1, 3-4.

[127] Robertson v. Methow Valley Citizens Council, 490 U.S. 332 (1989); Marsh v. Oregon Natural Resources Council, 490 U.S. 360 (1989).

[128] Ordering Paragraphs (F) through (J) add License Articles 53 (Salmon Carcass Surveys, Stock Rescue Program); 54 (Bald Eagle Monitoring); 55 (Bathymetric Surveys); 56 (Boat Ramps); and 57 (Temperature Monitoring), to address those proposed non-flow measures we are approving that are not covered by the Reasonable and Prudent Alternative and Reasonable and Prudent Methods.

[129] See Appendix A, Section F.2. and Appendix B, Measures 1, 2, and 4.

92. Interior and NOAA Fisheries, supported by the Tribes and the Forest Service,[130] recommend that PG&E be required to install, in addition to the upgraded gauge on Tomki Creek, two gauges above Lake Pillsbury, on the Eel River and on the Rice Fork of the Eel River, respectively. The gauges above Lake Pillsbury would provide unimpaired inflow data for the Lake. The upgraded Tomki Creek gauge would measure Tomki Creek flows and allow estimation of accretion flows from Scott Dam downstream to Garcia Riffle. The weighted sum of the data from these three gauges would, they state, obtain a more direct measure of the unimpaired flows targeted for release by the flow schedule (now the Reasonable and Prudent Alternative flow schedule), provide a better means to index pulse-flow timing, and build a form of redundancy into the unimpaired flow estimation procedure compared to a single gauge at Tomki Creek.

93. We will not require PG&E to install these additional gauges. Mimicking the flows from upstream of Lake Pillsbury would tend in some cases to attract migrating wild salmonids returning to Tomki Creek, which is their major spawning area, upstream past the confluence of Tomki Creek and the Eel. More important, these gauges are not necessary to implement the Reasonable and Prudent Alternative. It would therefore be unreasonable to require PG&E to install the two additional gauges, which the EIS finds would have a total installation and annual maintenance cost of about $300,000 and $150,000, respectively. The costs are high due to the gauges' remote locations and the extremely dynamic nature of the riverbeds, which entails high maintenance costs, including frequent rerating[131] of the gauges.[132]

---

[130] See Tribes' Comments on the EIS at pp.14-15; Forest Service's Third Revised Preliminary Conditions, Attachment at p. 3.

[131] Stream-flow gauges estimate flow based on a measurement of water level and a relationship established for a given site between stream cross-sectional area and water velocity (measured at various points along the cross-section at different flows). Once a rating curve is established for a site, flow can be estimated at gauges based on measurement of water level along the cross-section. If the cross-sectional area of the stream changes -- e.g., from the movement of bedload materials -- the original relationship no longer holds, and a new relationship needs to be determined. The more dynamic the particular streambed is, the more frequently it needs to be rerated.

[132] EIS Table 2.3-4 at p. 2-50. The Tribes state that the EIS should have used the USGS estimates of $92,200 and $30,000 for installation and annual maintenance costs, respectively. Tribes' Comments on EIS at pp. 15-16, citing Response of Interior and NOAA Fisheries to Comments of Sonoma on DOI/NMFS Proposal and Revisions to Sonoma's Final Flow Proposal, filed December 2, 1999. These figures are said to have been provided to Interior by USGS, but there is no direct statement from USGS, and we have no way of knowing what assumptions or information USGS may have used to develop the numbers.

94. We also conclude that the Tribes' proposed additional requirements for improvements to the fishway and fish-handling facilities at Cape Horn Dam, additional gates at Cape Horn and Scott Dams, and assessment of potential additional fish habitat improvements are not warranted in light of our inclusion in the license of the Reasonable and Prudent Alternative and Reasonable and Prudent Measures.

D. Agriculture

95. The EIS finds that the principal adverse economic effect of reducing diversions to the Russian River basin under current and estimated future water demand and sedimentation conditions would be to agricultural interests in the upper Russian River and Redwood Valley areas, which withdraw water downstream of the Potter Valley powerhouse and upstream from Lake Mendocino.[133] Under current average water year conditions, curtailments to agricultural users under all of the action alternatives would generally be limited to this area, with potential annual losses in the crop values ranging from zero (Sonoma) to $2,100,000 (Tribes). The staff-recommended PVID alternative yields potential losses of about $150,000.[134] In a critically dry year, only the Tribes' alternative produces losses that are measurably greater ($15,000,000) than the no-action alternative.[135]

96. Estimated direct crop losses in the year 2020 are greater under all of the alternatives because of assumed increases in water demand and reservoir sedimentation. Under year 2020 normal and dry year conditions, crop losses would be restricted to the upper and middle basin and Redwood Valley areas, and would increase compared to the no-action alternative from $2,000,000 (DOI/NMFS) to $6,000,000 (Tribes).[136] In the critically dry year only the Tribes' alternative produces losses that are measurably greater than the no-action alternative ($9,000,000).[137]

III. THREATENED AND ENDANGERED SPECIES

---

[133] See EIS at Section 4.4. Municipal and industrial water users, as well as agricultural interests in the lower Russian River basin, would be largely unaffected, either because they have senior water rights or because they have alternative water supplies. EIS at p. 4-94.

[134] See EIS at p. 4-111, Figure 4.4-9 (21-year period).

[135] Id. (1977 conditions).

[136] See EIS at p. 4-112, Figure 4.4-10 (21-year period) .

[137] Id. (1977 conditions).

97. Section 7(a) of the ESA requires federal agencies to ensure that their actions are not likely to jeopardize the continued existence of federally-listed threatened and endangered species, or result in the destruction or adverse modification of designated critical habitat. Federally-listed species that inhabit the Eel River in the project area include the threatened evolutionarily significant units of Southern Oregon/Northern California Coastal coho salmon, California Coastal Chinook salmon, and Northern California steelhead,[138] as well as the threatened bald eagle. The Russian River also supports three federally-threatened salmonids: Central California Coast coho salmon, California Coastal Chinook salmon, and Central California Coast steelhead.[139]

A. NOAA Fisheries' Biological Opinion

98. The procedural history of ESA consultation is set forth above in Section I.c.6. NOAA Fisheries' final Biological Opinion, unlike the EIS, finds that the PVID alternative is likely to jeopardize the continued existence of the Federally threatened salmonids. In accordance with ESA Section 7(b)(4),[140] the Biological Opinion includes a Reasonable and Prudent Alternative (RPA) designed to remove jeopardy [141]and an Incidental Take Statement with Reasonable and Prudent Measures (RPM) and implementing terms and conditions [142] to minimize incidental take of the federally threatened salmonids under the RPA.

---

[138] The listing citations appear above in Section II.C.

[139] Central California Coast Evolutionarily Significant Unit of coho salmon, 61 Fed. Reg. 56,138 (Oct. 31, 1996); critical habitat designated, 64 Fed. Reg. 24,049 (May 5, 1999). California Coastal Evolutionarily Significant Unit of Chinook salmon, 64 Fed. Reg. 50,394 (Sept. 16, 1999), critical habitat designated, 65 Fed. Reg. 7,764 (Feb. 16, 2000),), vacated National Assn. of Home Builders v. Evan, Memorandum Order, D.C. Cir. No. 00-2799 (April 30, 2002) (Homebuilders); Central California Coast Evolutionarily Significant Units of steelhead, 62 Fed. Reg. 43,937 (Aug. 18, 1997), critical habitat designated, 65 Fed. Reg. 7,764 (Feb. 16, 2000) (vacated, Homebuilders).

[140] 16 U.S.C. § 1536(b)(4).

[141] The Biological Opinion is attached to this order as Appendix A.

[142] The Reasonable and Prudent Measures are attached to this order as Appendix B. The ITC finds that incidental take of listed salmonids will occur under the RPA, but provides no estimate thereof. NOAA Fisheries has however determined that Incidental Take of listed species may be measured through successful compliance with the RPA. BO at p. 105. NOAA Fisheries has also determined that any take resulting from the RPA is not likely to result in jeopardy to the species or destruction or adverse effects on designated or proposed critical habitat.

99. Under the joint regulations of Interior and the Department of Commerce implementing the ESA,[143] a proposed action will jeopardize the continued existence of a listed species if it will reduce appreciably the likelihood of the listed species' survival in the wild.[144] NOAA Fisheries concludes that the PVID alternative would have this effect, because, although it would improve conditions for the threatened salmonids, it would not mimic pre-project unimpaired flows sufficiently to arrest and reverse the existing threatened status of the stocks.[145]

100. As explained in its Biological Opinion, NOAA Fisheries considers the RPA to constitute a better flow regime than the PVID alternative because it is more beneficial for salmonids with respect to summer salmonid and pikeminnow habitat, adult migration, late emigration of smolts, adult passage in the fall and winter, and the use of block water.[146]

101. As discussed above, we have concluded that the PVID alternative provides sufficient assurance of benefits to the threatened salmonids and less risk to other water uses than the regime provided by the Biological Opinion, and would not jeopardize any of the listed salmonids or adversely affect their critical habitat. However, because NOAA Fisheries' is the agency with principal responsibility for administering the ESA with respect to anadromous fish, and in light of the nature of an incidental take statement,[147] we are amending the license consistent with the Biological Opinion.

---

[143] 50 C.F.R. Part 402.

[144] See 50 C.F.R. § 402.2.

[145] NOAA Fisheries' Biological Opinion at pp. 79-81. NOAA Fisheries uses a pre-project environmental baseline, which describes the pre-project environment in general terms (pp. 27-28) and appears to treat any departure from those conditions as an adverse impact.

[146] NOAA Fisheries' Biological Opinion at pp. 63-75. Comments critical of the NOAA Fisheries' Biological Opinion were filed by CDFG, PVID, Mendocino Water & Power, PG&E, Sonoma and, collectively, Friends, CSPA, Fishermen, Wiyot Tribe of the Table Bluff Reservation, Coyote (Fred) Downey, L. Martin Griffin, M.D., and Frank Egger. Comments supporting the Biological Opinion were filed by Interior and Humboldt County.

[147] As we noted in Public Utility District No. 1 of Okanogan County, Washington, 90 FERC ¶61,169 at p. 61,549 (2000), the Supreme Court stated in Bennett v. Spear, 520 U.S. 154 (1997) that an action agency that disregards an incidental take statement does so at its own peril (and that of its employees), because "any person" who knowingly "takes" an endangered or threatened species is subject to substantial civil and criminal penalties,

(continued…)

B. Reasonable and Prudent Alternative

102. NOAA Fisheries' RPA is based on, but not identical to, the DOI/NMFS alternative.[148] The RPA components include a flow regime for the Eel River below Cape Horn Dam and Scott Dam, minimum flows for the East Branch Russian River exclusive of releases for PVID, block water, operating rules, and non-flow improvements, including modifications to Cape Horn Dam and an adaptive management plan for pikeminnow suppression. Article 52 requires PG&E to comply with the RPA.

103. The principal differences between the PVID alternative and the RPA are:

- The PVID alternative calculated a water conservation factor once each day to adjust reservoir operations for cumulative water inflows. The RPA allows only for monthly adjustments. This means that the PVID alternative enables much faster response to changes in hydrology, such as a reduction in releases to conserve water for later release in response to a sudden dry spell.

- The PVID alternative is better synchronized with flows in Tomki Creek, where natural salmon reproduction exists.[149] The RPA flows are more likely to attract fish upstream of Tomki Creek when suitable tributary habitat is less available.

- The PVID alternative adjusts flow releases from Cape Horn Dam up to three times per day in response to local runoff events during the fall Chinook migration period, as opposed to once per day under the RPA.

- The PVID provides a constant 5-cfs summer flow (August-September) to the Eel River, while summer flows under the RPA range from 3 cfs to 35 cfs, depending

---

(continued…)
including imprisonment.

[148] NOAA Fisheries' Biological Opinion at pp. 101-02. The differences include: (1) changing the minimum summer flows from 2 cfs to 3 cfs in very dry years; (2) adjusting the Exceptionally Low Inflow criteria to better conserve Lake Pillsbury storage; (3) curtailing PVID water deliveries at a Lake Pillsbury storage level of 25,000 ac-ft, rather than 15,000 ac-ft; (4) stream gauges upstream of Lake Pillsbury are not required (although they are recommended for protecting Essential Fish Habitat); and (5) flow indexing would use PVID's proposed Tomki Creek surrogate for unimpaired flows.

[149] The Eel River wild salmonid fishery is supplemented by hatchery production from CDFG's Van Arsdale fish station.

on cumulative inflows to Lake Pillsbury as of mid-May for the current and previous years.

- The PVID alternative has twice as much block water as the RPA (5,000 ac-ft v. 2,500 ac-ft), providing enhanced ability to respond to changing conditions.

- The PVID alternative draws Lake Pillsbury down to 28,000 ac-ft on an annual cycle. The RPA draws it down to 23,000 ac-ft. This gives the PVID alternative a greater buffer to protect against the draining of Lake Pillsbury. By contrast, because the RPA draws Lake Pillsbury down further in the winter, it risks not being able to refill the reservoir if the following spring is unusually dry.

- The RPA requires a 50 percent curtailment in water deliveries to the PVID in extremely dry water years, whereas the PVID alternative does not. The PVID alternative also allows for the emergency use of Van Arsdale Reservoir water for spring frost protection and the deferred delivery of contracted water, so that water may be delivered at a higher rate later in the season. These measures provide the PVID with more flexibility to manage its contracted water supply.

C. Terms and Conditions of the Incidental Take Statement

104. The Incidental Take Statement includes eight Reasonable and Prudent Measures (RPMs) to minimize the likelihood of take of federally threatened salmonids resulting from operation of the project under the RPA. These are:

(1) Development of an adaptive management plan for suppression of pikeminnow;

(2) Submittal to NOAA Fisheries for approval an annual pikeminnow suppression operations plan;

(3) Development of a system for verification of flows in the Eel River below the project;

(4) Annual funding of $60,000 for the pikeminnow suppression program and flow monitoring requirements, and report of anadromous salmonid counts at various locations;

(5) Provision of a means to ensure accurate regulation of the flow regime;

(6) Notification to the State Water Board of the modifications to the flow regime;

(7) Approval by NOAA Fisheries of fish screen operations at Van Arsdale (which is not an element of the license amendment); and

(8) Development of an annual program to monitor and assess the biological impacts of Eel River summer flows on salmonids.[150]

105. Each of the RPMs is to be implemented in accordance with specific terms and conditions set forth in Appendix B. Article 52 requires PG&E to comply with the RPMs and the terms and conditions.

D. Implementation and Compliance

106. As noted above, PG&E filed a proposed Implementation and Compliance Plan for its proposed flow regime. Under that plan, decisions concerning how much water to release above required minimums would generally be left to the discretion of PG&E's project operators, guided by the relationship of Lake Pillsbury storage volumes to PG&E's proposed rule curves, short-term power demand, and water needs in the Russian River basin. The Plan is very specific about when and how these decisions will be made, and includes detailed procedures concerning such matters as block water releases, daily flow adjustments, emergency operation, verification, and other matters.[151]

107. All parties appear to agree that an Implementation and Compliance Plan is needed, and the RPA and RPMs require PG&E to submit one for approval by NOAA Fisheries, based on the RPA flow requirements.[152] These provisions provide, among other things, for a website to display flow measurements so that they may be monitored by resource agencies and the public, a condition requested by Sonoma for any plan.[153] Article 52 requires the plan to be submitted to the Commission for approval as well.

---

[150] NOAA Fisheries' Biological Opinion at pp. 106-07.

[151] All the action alternatives include funding for non-flow measures substantially similar to PG&E's. See EIS Table 2.3-3, at p. 2-48. The Tribes and Interior recommend somewhat different capital improvements, consistent with their flow indexing proposals and to improve fish passage.

[152] See NOAA Fisheries' Biological Opinion at p. 94; Appendix A to this order, RPA Section G.1; and Appendix B to this order, RPM Measures 3 and 8.

[153] See EIS at p. 2-31.

E. Bald Eagles

108. Bald Eagles, a federally listed threatened species,[154] are present in the area around Lake Pillsbury. The Commission's Biological Assessment found that the proposed action was not expected to adversely affect bald eagles, because reservoir fluctuations would not be expected to change substantially from the no-action alternative.[155] The Commission submitted its Biological Assessment to FWS and requested formal consultation on March 18, 1999. By letter filed April 26, 1999, FWS expressed concerns regarding potential for reservoir fluctuations that could adversely affect bald eagles, and stated that additional information is required before formal consultation can begin. The Commission thereafter requested PG&E to file any additional information it had that was responsive to FWS' concerns, and by letter dated May 13, 1999, requested information from FWS concerning the DOI/NMFS proposal that might affect the Commission's analysis. On August 2, 1999, PG&E filed information in response to the Commission's request. By letter of August 12, 1999, to FWS, the Commission staff stated that the additional information provided by PG&E shows that there has been no relationship between Lake Pillsbury water levels and bald eagle nesting success during a lengthy study period that includes the record drought, and that there is little reason for concern that proposed action's effects on lake levels would adversely affect foraging success. Staff therefore renewed its request for concurrence that the PG&E alternative is not likely to affect bald eagles at Lake Pillsbury. FWS did not respond to staff's request for concurrence.

109. The EIS finds that project operations under all of the alternatives except DOI/NMFS are not likely to adversely affect bald eagles, because reservoir fluctuations would not be significantly different from the no-action alternative. It finds that the DOI/NMFS alternative may pose a risk of dewatering Lake Pillsbury in critically dry water years.[156] In its comments on the EIS filed July 20, 2000, FWS stated that it would use the available information to complete Section 7 consultation.[157] There has however been no further communication from the FWS on this matter. Because FWS has been in possession of all the relevant information for over three years without disputing the EIS's conclusions regarding impacts of the various alternatives on the bald eagle, we have

---

[154] FWS considers bald eagle to be recovered in the lower 48 states and has issued a proposed rule to delist them. 64 Fed. Reg. 36,454 (July 6, 1999).

[155] The Biological Assessment consisted of the Draft EIS and a March 18, 1999 cover letter that supplements the discussion of bald eagles in the Draft EIS.

[156] EIS Section 3.3.7 at pp. 3-44 and 3-45.

[157] Interior Comments on EIS at p. 19.

determined that it is appropriate to move forward on the application in this regard. Recommendations made by the Forest Service to protect bald eagles are discussed below.

IV. ESSENTIAL FISH HABITAT

110. Section 305(b)(2) of the Magnuson-Stevens Fishery Conservation and Management Act,[158] requires federal agencies to consult with the Secretary of Commerce (Secretary) regarding any action or proposed action authorized, funded, or undertaken by the agency that may adversely affect Essential Fish Habitat (EFH) identified under that act. The Secretary may recommend measures for the protection of the EFH. Section 305(b)(4)(B)[159] of that Act requires an agency, within 30 days after receiving recommended measures from NOAA Fisheries or a Regional Fishery Management Council, to describe the measures proposed by the agency for avoiding, mitigating, or offsetting the effects of the agency's action on the EFH. If the agency does not agree with the Secretary's recommended measures, it must explain its reasons for not following the recommendations.

111. On November 29, 2002, the Commission received NOAA Fisheries' EFH conservation recommendations.[160] By letter of December 26, 2002, the Commission responded that it would decide on the recommendations following receipt of any comments in an order on the application. The Secretary's recommendations are discussed below.

1. *Require PG&E to widely disseminate information about Sacramento pikeminnow suppression efforts that might rely on public participation for implementation.*

112. The appropriate kind and degree of activity to publicize the pikeminnow suppression program is a matter best settled in the context of development of the overall suppression program and annual operating plans provided for in the RPA and RPMs.

2. *Require PG&E to fund annual salmon carcass surveys in appropriate section of the Eel River, Tomki Creek, Outlet Creek, and other stream reaches deemed significant by fishery biologists.*

---

[158] 16 U.S.C. § 1855(b)(2).

[159] 16 U.S.C. § 1855(b)(4)(B).

[160] The EFH conservation recommendations are made in Section XI of the Biological Opinion at pp. 111-112. See also Appendix A to the Biological Opinion at pp. 133-134.

113. As discussed above, we have adopted PG&E's proposal for these surveys.[161]

3. *Require PG&E to install two flow gauges above Lake Pillsbury and one gauge on Tomki Creek, and to conduct a study of the need to modify the indexing flow equation based on the data from these three gauges*.

114. As discussed above in Section II.C.5, we have concluded that flow gauges above Lake Pillsbury are not necessary to protect the threatened Eel River salmonids. We likewise conclude that such gauges will not protect their habitat.

4. *Study feasibility of and develop a schedule for decommissioning the Potter Valley Project.*

115. We reject this recommendation for the same reasons we found in Section II that it is not a reasonable alternative for EIS purposes.

V. ADDITIONAL TRIBAL ISSUES

116. In this section we address issues raised by the Tribes that were not addressed previously.

117. The Tribes and Interior[162] contend that the EIS is inadequate because it does not discuss specifically the Commission's trust responsibility to the Tribes, or analyze fisheries impacts with reference to the Tribes' fishing and reserved water rights.[163]

118. The Commission acknowledges its trust responsibility toward Indian tribes and carries out these responsibilities in the context of the FPA.[164] The discussion in the EIS

---

[161] See Section II.C.5. and Article 53.

[162] Tribes' Comments on EIS at pp. 15-17; Interior Comments on EIS at pp. 18-19.

[163] The Tribes' reservation was established in 1870 by Executive Order of President Grant pursuant to the Four Reservations Act of 1864, 13 Stat. 39. See Russ v. Wilkins, 624 F.2d 914, 915 (1980). The boundaries of the reservation were established by act of Congress in 1873. 17 Stat. 633. The Act of 1873 reserves the Tribes' fishing rights in the Eel River. See Covelo Indian Community v. FERC, 895 F.2d 581, 586 (9th. Cir. 1990) (Covelo). The Tribes also claim implied reserved federal water rights in the Eel River. Tribes' motion to intervene at p. 2.

[164] See Covelo; City of Tacoma, WA, 71 FERC ¶ 61,381 at 62,493 (1995); Skokomish Indian Tribe, 72 FERC ¶ 61,268 (1995), citing FPC v. Tuscarora Indian Nation, 362 U.S. 99, 118 (1960).

does not specifically analyze fisheries impacts with reference to the Tribes' fishing rights, because the Tribes' claims in that connection are general in nature.[165] The great majority of the EIS' analysis is however devoted to the impacts of the various alternatives on Eel River fisheries. Any beneficial or detrimental effects on the fisheries of each alternative are presumed to be beneficial or detrimental to the Tribes' fishing rights. There is no apparent dispute that the Tribes enjoy certain water rights, but the Tribes have not explained those rights with any specificity or shown how the alternatives might affect their enjoyment of those rights, except as they affect the recovery of the Eel River fishery.[166] Under these circumstances, the kind and degree of analysis of the various alternatives in the EIS is appropriate.

119. The Tribes argue that by accepting the settlement agreement in the license proceeding that resulted in Articles 38 and 39, the Commission avoided consideration of decommissioning as an alternative, and so must consider decommissioning at this juncture.[167] As explained above,[168] the license is administratively and judicially final, and there is no basis upon which the Commission could revoke the license.

120. The Tribes also assert that the lack of a decommissioning alternative and consideration in the EIS of negative impacts to the Russian River Basin economy from reduced diversions of Eel River water unjustly rewards Russian River interests for failing to prepare for a likely future reduction or loss of Eel River water as a result of the Article 39 study.[169] Whatever the merit of this assertion may be, we have previously explained why decommissioning is not a realistic option. In any event, and contrary to the Tribes' suggestion, all the action alternatives significantly reduce the amount of water diverted to the Russian River in exceptionally dry years.

121. The Tribes also allege that the EIS analysis is biased in favor of Russian River economic interests, because it quantifies potential economic consequences of the alternatives to the Russian River basin agricultural economy, but does not do the same with respect to the Eel River basin generally or the potential economic value of commercial or subsistence harvest to the Tribes.[170] As discussed above, the influence of

---

[165] See Tribes' motion to intervene and for interim relief, at p. 2.

[166] Id.

[167] Tribes' Comments on EIS at p. 4.

[168] Section II.B.2.

[169] Tribes' Comments on EIS at pp. 4-5.

[170] Id. at p. 5.

the Russian and Eel Rivers on the economy of their respective basins is dramatically different. The Russian River figures very prominently in the economy of that basin. The Eel River has a very minor impact on economic activity in its basin, except to the extent that its flows affect recreational opportunities at Lake Pillsbury. Under the best of circumstances, the restoration of threatened Eel River Fisheries to the point where they can have an appreciable beneficial economic impact in general and to the Tribes in particular is likely to be in the long-term future. Efforts to estimate potential economic or subsistence value of a restored Eel River fishery at this juncture would be impractical and speculative.

122. The Tribes assert that NEPA requires mitigation for all negative impacts of a federal action, but that neither the PVID nor DOI/NMFS alternative provides mitigation for the loss of salmonid habitat in the tributaries to Lake Pillsbury sustained when Scott Dam was constructed.[171] As discussed above, NEPA includes no such requirement, and this order provides appropriate mitigation and enhancement measures for the benefit of the threatened salmonids.

123. The Tribes also state that there should be mitigation for entrainment of salmonids during the Article 39 study, because the conduit for diversion of Eel River water to the powerhouse was not screened from 1985 to 1996 while that study was being conducted.[172] During those years, however, PG&E worked closely with CDFG to prevent or minimize such entrainment by curtailing diversions, timing pulse flows, and undertaking trapping and transporting operations.[173]

VI. WATER QUALITY CERTIFICATION

124. Under Section 401(a)(1) of the Clean Water Act (CWA)[174] the Commission may not issue a license for a hydroelectric project unless the state water quality certifying agency has issued water quality certification for the project or has waived certification. Our regulations provide that an application to amend a license or an amendment to a pending license application is required to include a new application for water quality certification if "the amendment would have a material adverse impact" on water quality in the discharge.[175]

---

[171] Id. at pp. 4-5. The Tribes' alternative would provide fish passage at Scott Dam.

[172] Id. at p. 6 n.1.

[173] See PG&E Response to Tribes' Comments on EIS, Attachment C, page 1.

[174] 33 U.S.C. § 1341(a)(1).

.

[175] 18 C.F.R. § 4.34(b)(5)(iii). Rule 2002, issued July 23, 2003, and effective

(continued…)

125. Cal Trout states that the Draft EIS does not document that PG&E applied for water quality certification for its proposed amendment and does not include as an alternative any conditions that the State Water Board may deem necessary for such certification.[176] Certification is however not required for this amendment. First, as documented in the EIS, water quality in the Eel River will benefit, albeit marginally,[177] from implementation of the PVID alternative. The RPA flow regime, which is similar, should have similar effects. Second, modification to the discharges into the East Branch Russian River from the Potter Valley powerhouse are expected to have no material adverse effects on water quality.[178]

VII. WATER RIGHTS

126. Friends argue that PG&E's amendment application should be denied and required to be resubmitted because PG&E is in violation of FPA Section 9.[179] Section 9(a)(2) directs a license applicant to submit to the Commission "satisfactory evidence" that it has "complied with the requirements of the laws of the State or States within which the proposed project is to be located with respect to bed and banks and to the appropriation

---

(continued…)
October 23, 2003 (68 Fed Reg. 51,070 (August 25, 2003)); III FERC Stats. & Regs. ¶ 31,150), relocated this provision from 18 C.F.R. § 4.38(f)(vii). In North Carolina v. FERC, 112 F.3d 1175 (D.C. Cir. 1997), the court affirmed the Commission's determination that an amendment that, as here, decreases the discharge from the project's powerhouse does not require new certification or waiver thereof.

[176] Cal Trout Comments on Draft EIS at p. 2.

[177] The PVID alternative and RPA would reduce temperatures in the Eel River at some times of the year for a short distance downstream from the project.

[178] The RPA modifies the DOI/NMFS alternative to reduce the drain on Lake Pillsbury to the Eel River, which could make more water available for discharge to the Russian River. EIS at pp. 4-33 to 4-37.

We note as well that on June 16, 1998, the State Water Board filed a letter stating that it would inform the Commission if it believed new water certification was required. The State Water Board has made no further filings in this connection. Also, by letter dated June 18, 2002, Cal Trout asked the State Water Board to determine whether certification is required for PG&E's amendment application. The record does not indicate whether the State Water Board responded to Cal Trout's letter.

[179] 16 U.S.C. § 802(b).

diversion, and use of water for power purposes . . . ."[180] Friends assert that PG&E cannot make this showing, because it possesses no consumptive right to the water diverted to the Russian River, and argue that the volume of water diverted exceeds the amount to which PVID is entitled.[181] In the same vein, Friends charge that Sonoma County is the principal user of the water diverted by PG&E to the Russian River, and that Sonoma County lacks necessary consumptive water rights.[182] Mendocino Water & Power argues that under California law the existing Potter Valley Project discharges are dedicated to public use in the Russian River basin, and urges the Commission not to modify operation of the project in a way that would redistribute state consumptive rights.[183]

127. Whether PG&E's present or future diversions of water from the Eel River to the Russian River are consistent with California law is a matter to be resolved by the California authorities, and it is not our intention to interfere with any actions they may take with respect to water rights. We have moreover retained authority to make any adjustments to the license in the future that may be needed in light of any such actions.[184]

128. The Executive Summary to the EIS states that reduction or elimination of diversions to the Russian River basin under the Tribes and DOI/NMFS alternatives may raise water rights issues under California law. Interior objects to this statement on the ground that reduction or elimination of diversions is also possible under the no-action

---

[180] Section 9 does not itself require compliance with any state laws; rather, it "is devoted to securing adequate information for the Commission as to pending applications for licenses." First Iowa Hydro-Electric Co-Op. v. FPC, 328 U.S. 152, 177 (1946). See also California v. FERC, 495 U.S. 490, 500-501 (1990).

[181] Friends' Comments on Draft EIS at pp. 4-5. PG&E diverts about 160,000 ac-ft annually. PVID's contract with PG&E requires PG&E to deliver 19,000 ac-ft, and deliveries are not guaranteed in the event of a drought. See Interior Comments on Final EIS at p. 17.

[182] Friends' Comments on Draft EIS at pp. 6-7.

[183] Mendocino Water & Power Comments on Draft EIS at pp. 3-5.

[184] See Ordering Paragraph (K) below, which adds Article 58.

alternative and PG&E's original proposal under critically dry conditions,[185] but the EIS does not also characterize these alternatives as raising water rights issues.[186]

129. Interior appears to misapprehend the purpose of this statement in the Executive Summary, which is merely to note that some commenters raised an issue concerning whether curtailments of deliveries to PVID may be inconsistent with state water rights.[187] The EIS appropriately makes no finding on the matter, which, as noted, is for state authorities to determine. The function of an EIS is to analyze the environmental impacts of such potential curtailments in the context of analyzing alternatives.

VIII. FPA SECTION 4(e)

130. FPA Section 4(e)[188] provides that licenses issued within any United States reservation must be found by the Commission not to interfere or be inconsistent with the purpose for which such reservation was created or acquired, and must include such conditions as the Secretary of the Department under whose supervision such reservation falls shall deem "necessary for the adequate protection and utilization of such reservation."

131. As noted, most of Lake Pillsbury is located within the Mendocino National Forest, which is a federal reservation. On March 3, 1999, as revised on September 20, 1999, September 30, 1999, and May 15, 2000, the Forest Service filed preliminary terms and

---

[185] Under the PVID alternative, the existing emergency rule curve under which deliveries to PVID would be curtailed in times of drought would be eliminated. EIS at p. 2-39. This would ensure that PVID receives water even in critically dry conditions, although PG&E evidently is not contractually obligated to make deliveries to PVID during droughts. See Interior Comments on EIS at p.17.

[186] Interior Comments on EIS at p. 17.

[187] See, e.g., comments of Mendocino Water and Power on Draft EIS, Appendix E at pp. E-183 to E-185. Under the PVID alternative, in addition to no curtailments, PVID may elect to defer delivery of water early in the season and then have it delivered at a higher rate later in the season, and also may use storage in Van Arsdale Reservoir for emergency frost protection during the spring. PVID Comments on DEIS at pp. 5-6. In contrast, the RPA requires a 50 percent curtailment of flow releases from the Project to PVID for the entire irrigation season in critically dry years (i.e., cumulative inflow to Lake Pillsbury by April 1 is less than 25,000 ac-ft).

[188] 16 U.S.C. § 797(e).

conditions, purportedly pursuant to Section 4(e).[189] On September 29, 2000, the Forest Service filed comments on the Final EIS and an Environmental Assessment (EA) containing its final purported Section 4(e) conditions.[190]

132. The Forest Service states that these conditions are necessary to protect anadromous fisheries, bald eagle habitat, and recreation on Lake Pillsbury.[191] Comments in response to the Forest Service's conditions were filed on October 30, 2000, by Ken Thompson.

133. The Secretary's authority under Section 4(e) applies only to licensing actions.[192] This proceeding is not a licensing action, because it does not authorize significant new project works or add new federal lands to the project. Rather, it would simply make adjustments to project operations and minor facility modifications that are already contemplated by Article 39.

134. Even if the Forest Service did have mandatory conditioning authority for this action, it has forfeited that authority in this proceeding. Our regulations provide that if agencies with authority to issue mandatory conditions do not timely submit their conditions, they are considered as recommendations pursuant to FPA Section 10(a)(1).[193] An agency with conditioning authority may modify previously filed preliminary

---

[189] On May 4, 1999, the Forest Service submitted a filing in support of its purported Section 4(e) authority. Following the filing of the Forest Service's third revised conditions on May 15, 2000, Sonoma filed a response (June 1, 2000) opposing the Forest Service's assertion of authority in this regard

[190] The final conditions are found at pp. 2-4 of the Forest Service EA. These were subsequently adopted in January 25, 2001 Decision Notice which was filed with the Commission on January 29, 2001.

[191] The Forest Service asserts generally the necessity of its conditions for these purposes in its letter filed December 14, 1998, and in each iteration of its conditions. The Forest Service EA alludes briefly (at p. 14) to the effects of its boat ramp condition on eagles.

[192] A licensing action is one that authorizes significant new project works, such as the addition of new turbine generators or the addition of federal land. See Adirondack Hydro Development Corp., 50 FERC ¶ 51,100 (1990) (addition of facilities), and Pacific Gas and Electric Co., 46 FERC ¶ 61,249 (1996) (addition of federal lands).

[193] 18 CFR § 4.34(b)(1).

conditions or file new conditions no later than the due date for comments on a Draft EIS.[194] Here the Forest Service timely filed conditions following issuance of the Draft EIS, but then filed first, second, third, and final revised conditions, all many months after the deadline for comments on the Draft EIS. With the exception of a condition relating to bald eagle surveys, the revised conditions were materially different from the timely-filed conditions. Accordingly, we reviewed the Forest Service's conditions as recommendations under the comprehensive development standard of FPA Section 10(a)(1).[195]

A. Conditions 1-3, Lake Levels and Storage Volume Targets

135. These conditions would establish certain lake level and storage volume targets and required elevations for Lake Pillsbury for the benefit of recreation, the resident fishery, and bald eagles.[196] The Forest Service EA concludes that the Lake Pillsbury Elevation/Storage targets in these proposed conditions are consistent with the DOI/NMFS alternative,[197] which is the basis for the RPA flow regime requirements. Including the RPA as a license requirement therefore encompasses these conditions.

136. Sonoma asks that we require PG&E to make available to the public copies of all reservoir surveys and reports filed with the Commission.[198] All documents filed with the Commission are, as a matter of course, in the public domain and obtainable from the Commission's web site unless the filing entity requests confidential treatment or unless they contain Critical Energy Infrastructure Information,[199] which would not appear to be

---

[194] 18 CFR § 4.34(b)(4).

[195] Article 43 requires PG&E to file an operational plan to maintain the level of Lake Pillsbury for recreational purposes. The plan was filed in 1983, but not for Commission approval, and is now superseded by the RPA. We are therefore removing Article 43 from the project license.

[196] Condition 3 first appeared in Forest Service's third revised conditions, filed May 15, 2000.

[197] Forest Service EA at pp. 9-10.

[198] Sonoma Comments on Forest Service third revised conditions, filed June 1, 000, at p. 8.

[199] See Order No. 630, 68 Fed. Reg. 9,857 (Mar. 3, 2003), III FERC Stats. & Regs. ¶ 31,140 (Feb. 21, 2003); Order No. 630-A, 68 Fed. Reg. 46,456 (Aug. 6, 2003), III FERC Stats. & Regs. ¶ 31,147 (July 23, 2003); and Order No. 643, 68 Fed. Reg. 52,089 (Sept. 2, 2003), III FERC Stats. & Regs. ¶ 31,149 (July 23, 2003) (conforming rule).

the case with the survey and report requirements added by this order. The Commission's regulations pertaining to requests for confidential treatment of information[200] are sufficient to resolve any issues that may arise in this connection.

B. Condition 4, Bald Eagles

137. This condition would require PG&E, for a period of five years, to conduct or fund annual surveys to identify and monitor nesting, perching, and foraging areas used by bald eagles in the Lake Pillsbury area, and provide annual reports of the results to the Forest Service and other interested agencies. At the end of the five years, PG&E would consult with the Forest Service and FWS concerning the need to continue this requirement.[201] The Forest Service EA briefly discusses bald eagles and the storage target levels at various places, but does not explain why the proposed survey and study are needed.[202] We will include such a condition because the bald eagle remains a Federally listed threatened species.

C. Condition 5, Bathymetric Surveys

138. This condition would require PG&E to conduct or fund bathymetric surveys[203] of Lake Pillsbury every 10 years, beginning in 2005, and to provide the results to the Forest Service and other interested agencies. The surveys would permit tracking of changes in the storage capacity of Lake Pillsbury that occur as a result of sedimentation. Surveys subsequent to the initial survey could be deferred with Forest Service concurrence if the preceding 10 years were very dry (thereby reducing the sediment load from tributary streams). The Forest Service EA includes no discussion of this condition,[204] which was first proposed in the Forest Service's March 3, 1999 filing and was subsequently

---

[200] See 18 C.F.R. Part 388, Information and Requests.

[201] Forest Service EA at p. 3

[202] See Forest Service EA at pp. 7, 10, 11, 12. This condition was first proposed in the Forest Service's March 3, 1999 proposed conditions, and has not subsequently been materially changed.

[203] A bathymetric survey measures water depths throughout a body of water, and generally results in a contour map of the bed of the water body analogous to a topographic map.

[204] The only indication in the record of the rationale for this proposed condition is a statement in PG&E's November 1, 1999 Analysis of Revised Conditions (attachment at p. 3) that the Forest Service wishes to track changes in sediment levels near Scott Dam.

modified in response to concerns expressed by PG&E.[205] We are adopting the modified version of this recommendation.[206]

D. Condition 6, Boat Ramps

139. This condition would require PG&E to extend a public boat ramp at Lake Pillsbury if water levels render unusable two existing boat ramps as of Labor Day in three of any ten consecutive years. This condition is discussed in the Forest Service EA[207] and is a modification of the Forest Service's original boat ramp condition per recommendations made by PG&E.[208] PG&E has agreed to this low-cost condition which will help to preserve the recreational resources of Lake Pillsbury under the new flow regime. We include it in the license.

E. Condition 7, Thermography

140. This condition would require PG&E to install a continuous reading thermograph below Scott Dam for a period of ten years to document the relationship between Lake Pillsbury levels and released water temperatures. PG&E has agreed to this condition, and we include it in the license.[209]

F. Lake Pillsbury Inflow Gauges

141. The Forest Service initially included a condition that would require PG&E to install two streamflow gauges above Lake Pillsbury for purposes of determining the actual unimpaired inflow to the lake in order to improve data on the natural hydrograph of the Eel River.[210] PG&E vigorously opposed this condition.[211] The Forest Service later

---

[205] See PG&E's Analysis of Revised Conditions, above, attachment at page 3; Forest Service Third Revised Conditions, filed May 15, 2000, attachment at p. 3.

[206] Article 55.

[207] Forest Service EA at pp. 13-14.

[208] See PG&E Response to Revised Conditions, attachment at p. 5.

[209] See PG&E Response to Revised Conditions, attachment at p. 9.

[210] See Forest Service First Revised Conditions, filed September 20, 1999, attachment at pp. 2 and 3.

[211] PG&E Analysis of Revised Conditions, filed November 1, 1999, attachment at pp. 5-9.

withdrew the condition as a purported Section 4(e) condition, but continues to recommend it pursuant to FPA Section 10(a)(1),[212] explaining that it agrees with Interior and NOAA Fisheries that the new gauges would more accurately measure the inflow to Lake Pillsbury.[213] As discussed above, we decline to require these gauges.

IX. CULTURAL RESOURCES

142. The Commission must comply with the consultation requirements of Section 106 of the National Historic Preservation Act and the implementing regulations of the Advisory Council on Historic Preservation (Advisory Council).[214] Consultation under Section 106 usually results in the preparation of a Programmatic Agreement among the Commission, the State Historic Preservation Officer (SHPO), and the Advisory Council which provides for the protection of historic and cultural resources through the establishment of a Cultural Resources Management Plan (CRMP).

143. The Commission initiated formal consultation with the California SHPO by letter issued February 16, 1999. By letter filed April 1, 1999, the SHPO requested additional information. Additional information was provided to the SHPO and the Advisory Council on August 19, 1999. On April 19, 2000, Commission staff circulated for signature a final PA for the proposed license amendment. By letter filed October 19, 2000, following issuance of the EIS, the Advisory Council declined to execute the PA, on the grounds that the PA: (1) lacked procedures for consultation between issuance of the license amendment and completion of the CRMP; (2) too narrowly defined the area of potential effect; (3) needed additional information on historic properties that may be affected by shoreline erosion; (4) should evaluate certain project facilities for eligibility for inclusion in the National Register of Historic Places (Register); (5) needed additional evaluation regarding the possibility that the project affects traditional cultural properties; and (6) should have included the Forest Service in consultations, since the area of potential effect includes land within the Mendocino National Forest.

144. On December 18, 2003, the Commission provided to the SHPO, Advisory Council, Tribes, and PG&E a revised PA and requested the signatures of the SHPO and Advisory Council, and the concurrence of the Tribes and PG&E. The revised PA provides deadlines for PG&E to complete, in consultation with the SHPO and the Tribes, a Cultural Resources Inventory Report and Historic Properties Management Plan (HPMP). The SHPO executed the revised PA on December 31, 2003. The Advisory Council executed the revised PA on January 20, 2004.

---

[212] See Forest Service Third Revised Conditions, attachment at p. 3.

[213] Id.

[214] 36 C.F.R. Part 800.

The Commission orders:

(A) All requests for relief not specifically granted in this order are hereby denied.

(B) Articles 38, 39, and 43 are removed from the project license.

(C) The conditions of Appendices A and B to this order are hereby incorporated into the Project license.

(D) Article 51 is added to the license, to read as follows:

Article 51. *Tomki Creek Gauge*. (a) No later than August 1, 2004, the Licensee shall submit for Commission approval a plan to upgrade the Tomki Creek gauge. The upgraded guage will meet USGS standards. Upgrades will consist of construction of a V-notch weir to ensure accurate flow measurement, installation of telephone lines and modems for instantaneous data transmission to a supervisory control system, installation of a pressure transducer gauging instrument to measure stream stage to ± 0.01 feet, and a power supply consisting of a battery bank and solar/grid power charger.

(b) The Licensee shall prepare the plan after consultation with the National Marine Fisheries Service, U.S. Fish and Wildlife Service, and California Department of Fish and Game. The Licensee shall include with the plan documentation of consultation, copies of comments and recommendations on the plan, and specific descriptions of how the agencies comments are accommodated by the Licensee's plan. The Licensee shall allow a minimum of 30 days for the agencies to comment and make recommendations before filing the plan with the Commission. If the Licensee does not adopt a recommendation, the filing shall state the Licensee's reasons.

(c) The Commission reserves the right to require changes to the plan. Upon Commission approval, the Licensee shall implement the plan, including any changes required by the Commission.

(E) Article 52 is added to the license to read as follows:

Article 52. *Federally Threatened Salmonids*. (a) No later than August 1, 2004, the Licensee shall submit for Commission approval a plan to implement and comply with NOAA Fisheries' Reasonable and Prudent Alternative, and Reasonable and Prudent Measures, which are found at pages 85-95 and page 106-100, respectively, of the Biological Opinion filed

by NOAA Fisheries in Project No. 77-100 on November 29, 2002.

(b) The plan shall include provision for annual performance reports to be filed with the Commission which document the Licensee's degree of success in meeting the operational targets of the Reasonable and Prudent Alternative, and shall quantify the frequency with which the following parameters are equaled or exceeded:

- Monthly and total annual inflows to Lake Pillsbury (acre-feet);
- Weekly pool elevation from the date of gate closure to the end of the recreational season (Labor Day Weekend);
- Relation between actual storage volumes and the target rule curve for Lake Pillsbury;
- Number of days Lake Pillsbury is 10 feet, five feet, and 0 feet above the foot of boat ramps during recreational season (gate closure to Labor Day);
- Date, magnitude, and duration of warmwater surface releases from Lake Pillsbury to meet temperature targets to promote downstream migration;
- Date, magnitude, and duration of block water releases, including management objectives for these releases;
- Date, volume, and duration of natural and man-made pulse releases from Cape Horn Dam, along with a corresponding record of upstream migrants over the fish ladder at Cape Horn Dam;
- Stability of stream flows between Scott and Cape Horn Dams during the spawning and incubation periods for salmon and steelhead, with annotation explain reasons for spikes, if any; and
- Publicly accessible records of daily stream flows below Scott and Cape Horn Dam, in the Project powerhouse tailrace, and at the Tomki Creek gauge.

(c) The Licensee shall prepare the plan after consultation with the National Marine Fisheries Service, U.S. Fish and Wildlife Service, and California Department of Fish and Game. The Licensee shall include with the plan documentation of consultation, copies of comments and recommendations on the plan, and specific descriptions of how the agencies comments are accommodated by the Licensee's plan. The Licensee shall allow a minimum of 30 days for the agencies to comment and make

recommendations before filing the plan with the Commission. If the Licensee does not adopt a recommendation, the filing shall state the Licensee's reasons.

(d) The Commission reserves the right to require changes to the plan. Upon Commission approval, the Licensee shall implement the plan, including any changes required by the Commission.

(F) Article 53 is added to the license to read as follows:

Article 53. *Salmon Carcass Surveys, Stock Rescue Program*. (a) No later than June 20, 2004, the Licensee shall submit for Commission approval a plan for (1) funding of annual Chinook salmon carcass surveys; and (2) funding of the California Department of Fish and Game's Chinook salmon and stock rescue program to an annual maximum of $30,000.

(b) The Licensee shall prepare the plan after consultation with the California Department of Fish and Game, National Marine Fisheries Service, and U.S. Fish and Wildlife Service. The Licensee shall include with the plan documentation of consultation, copies of comments and recommendations on the plan, and specific descriptions of how the agencies comments are accommodated by the Licensee's plan. The Licensee shall allow a minimum of 30 days for the agencies to comment and make recommendations before filing the plan with the Commission. If the Licensee does not adopt a recommendation, the filing shall state the Licensee's reasons.

(c) The Commission reserves the right to require changes to the plan. Upon Commission approval, the Licensee shall implement the plan, including any changes required by the Commission.

(G) Article 54 is added to the license, to read as follows:

Article 54. *Bald Eagle Monitoring*. (a) No later than August 1, 2004, the Licensee shall file for Commission approval a plan to conduct or fund annual surveys to identify and monitor nesting, perching, and foraging areas used by bald eagles in the Lake Pillsbury area. The Licensee will provide annual reports of the monitoring results to the U.S. Forest Service, U.S. Fish and Wildlife Service (FWS), and, upon request, other resource agencies.

(b) The Licensee shall prepare the plan after consultation with the California Department of Fish and Game, and U.S. Fish and Wildlife Service. The Licensee shall include with the plan documentation of

consultation, copies of comments and recommendations on the plan, and specific descriptions of how the agencies comments are accommodated by the Licensee's plan. The Licensee shall allow a minimum of 30 days for the agencies to comment and make recommendations before filing the plan with the Commission. If the Licensee does not adopt a recommendation, the filing shall state the Licensee's reasons.

(c) The Commission reserves the right to require changes to the plan. Upon Commission approval, the Licensee shall implement the plan, including any changes required by the Commission.

(d) The annual survey requirement shall continue for five years following approval of the plan, at which time the Licensee, in consultation with the Forest Service and FWS, shall evaluate the need to continue the annual surveys. If the Licensee, after a consultation period of no less than 60 days, concludes that the annual survey should be terminated, it may file an application to amend the license to delete this requirement. Any such application shall include documentation of consultation with these agencies and, if the licensee does not adopt a recommendation, the application shall state the Licensee's reasons.

(H) Article 55 is added to the license, to read as follows:

Article 55. *Bathymetric Surveys*. (a) No later than August 1, 2004, the Licensee shall file with the Commission for approval a plan to conduct or fund bathymetric surveys of Lake Pillsbury every ten years, beginning in 2005. The plan shall provide that subsequent surveys following the 2005 survey may be deferred for up to five additional years if the preceding ten-year period has been extremely dry, with the concurrence of the U.S. Forest Service. The plan shall also include provision for the Licensee to provide to the Forest Service and other interested resource agencies maps and/or digital coverage of the survey results.

(b) The Licensee shall prepare the plan after consultation with the Forest Service. The Licensee shall include with the plan documentation of consultation, copies of comments and recommendations on the plan, and specific descriptions of how the Forest Services' comments are accommodated by the Licensee's plan. The Licensee shall allow a minimum of 30 days for the Forest Service to comment and make recommendations before filing the plan with the Commission. If the Licensee does not adopt a recommendation, the filing shall state the Licensee's reasons.

(c) The Commission reserves the right to require changes to the plan. Upon Commission approval, the Licensee shall implement the plan, including any changes required by the Commission.

(I) Article 56 is added to the license, to read as follows:

Article 56. *Boat Ramps*. (a) In order to ensure that the public has boating opportunities at Lake Pillsbury during the normal recreation season of Memorial Day to Labor Day for 80 percent of the years during remaining term of the license, the Licensee shall extend a public boat ramp if water levels at both the Fuller Grove and Pillsbury Pines boat ramps are too low to permit the use of either ramp on three out of any ten consecutive Labor Day holiday weekends following implementation of the flow schedule require by Article 51. The Licensee shall consult with the U.S. Forest Service regarding the need for, location, and particulars of any such extension, which may include temporary annual extensions of a boat ramp. The Commission reserves authority to resolve, upon application of either party, any disagreements between the Licensee and the Forest Service regarding the need for, location, or particulars of any such boat ramp extension.

(J) Article 57 is added to the license, to read as follows:

Article 57. *Temperature Monitoring*. The Licensee shall install a continuous reading thermograph below Scott Dam during the months of August through October for a period of ten years beginning in 2004 for the purpose of documenting the relationship between Lake Pillsbury levels and the temperature of water released from Scott Dam. The Licensee shall file an annual report of the collected data with the U.S. Forest Service and the National Marine Fisheries Service, and provide collected data to these agencies between annual reports upon request.

(K) Article 58 is added to the license, to read as follows:

Article 58. *Reservation of Authority – State Water Rights*. The Commission reserves authority to require modifications to the Project license as may be necessitated by modification by the California State Water Resources Control Board of its Decision 1610.

(L) This order is final unless an application for rehearing is filed within 30 days from the date of its issuance, as provided in Section 313(a) of the Federal Power Act. The filing of an application for rehearing does not operate as a stay of the effective date of this order or of any date specified in this order, except as specifically ordered by the Commission.

By the Commission. Commissioners Brownell and Kelly concurring with separate statements attached.

(S E A L)

Linda Mitry,
Acting Secretary.

APPENDIX A

NOAA FISHERIES' REASONABLE AND PRUDENT ALTERNATIVE

Definitions. The following definitions apply to terms used in this article.

(1) *MF11* = minimum flow of the Eel River below Cape Horn Dam (cubic feet per second, or cfs).
(2) *MF02* = minimum flow of the Eel River below Scott Dam (cfs).
(3) *MF16* = minimum flow of the East Branch Russian River (cfs).
(4) *Index* = index flow (cfs).
(5) *Cap* = cap on the index flow (cfs).
(6) *Floor* = floor on the index flow (cfs).
(7) *SF* = summer flows.
(8) *CLP(date)* = cumulative inflow into Lake Pillsbury as of the given date (acre-feet, or ac-ft).
(9) *EXCL(date)* = exceptionally low inflow into Lake Pillsbury as of the given date (ac-ft).
(10) *CRIT(date)* = critically dry inflow into Lake Pillsbury as of the given date (ac-ft).
(11) *DRY(date)* = dry inflow into Lake Pillsbury as of the given date (ac-ft).
(12) *Bom* = beginning-of-month.
(13) *Day* = day-of-month.

A. *Minimum Flows of the Eel River Below Cape Horn Dam.*

Minimum flows of the Eel River below Cape Horn Dam, MF11, measured at the Licensee's gauge E-11, shall be computed as an index flow subject to the floor and cap limitations. If the index flow is between the cap and the floor, the minimum flow is equal to the index flow. If the index flow is less than the floor, the minimum flow is equal to the floor. If the index flow is greater than the cap, the minimum flow is equal to the cap. Mathematically, this can be expressed as: *MF11* = min(max(*Index*, *Floor*), *Cap*). The cap and the floor are specified in sections (1) through (8) below.

A.1. <u>October 1 – October 15</u>

Cap = SF+(140-SF))*Day/15
If SF < 25 cfs, Floor = SF+(25-SF)*Day/15. Otherwise, Floor=SF.

A.2. <u>October 16 – November 30</u>

Cap = 140 cfs
If *SF*<25 cfs, *Floor* = 25 cfs. Otherwise, *Floor=SF)*

A.3. December 1 – March 1

Cap = 140 cfs
Floor = 100 cfs, but if *CLP(Bom)* is less than *EXCL(Bom)* and if the previous month's *Floor* was not equal to 100 cfs, *Floor* = 25 cfs.

A.4. April 1 – May 15

Cap = 200 cfs
Floor = 100 cfs, but if *CLP(Bom)* is less than *EXCL(Bom)* and if the previous month's *Floor* was not equal to 100 cfs, *Floor* = 25 cfs.

A.5. May 16 – May 30

Cap = 200 cfs
Floor = *SF*+(*FM-SF*)*exp(-(*Day-15)/7*), where *FM* is the May 1-15 floor defined in paragraph (b)(4).

A.6. June 1 – June 30

Cap = *SF*+(200-*SF*)*exp(-*Day/7*)
Floor = *SF*+(*FM-SF*)*exp(-(*Day+15)/7*), where *FM* is the May 1 floor defined in paragraph (b)(4)

A.7. July 1 – July 30

Cap = *SF*+(200-*SF*)*exp(-(*Day+30)/7*)
Floor = *SF*+(*FM-SF*)*exp(-(*Day+45)/7*), where *FM* is the May floor defined in paragraph (b)(4)

A.8. August 1 – September 30

Cap and Floor are both equal to the summer flow SF.

Summer flow value depends on the classification of both current and previous water years based on the cumulative inflow into Lake Pillsbury as of May 15. If the previous water year was not classified as "very wet," summer flow shall be equal to the singular summer flow. If the previous water was classified as "very wet," summer flow flow shall be equal to the serial summer flow. Values of singular and serial summer flows are selected according to the classification of the current water year.

Water year classification criteria and values of singular and serial summer flows are shown in the following table:

Classification			Summer Flow *SF*	
Water Year Classification	Probability Range	CLP as of May 15 (ac-ft)	Singular	Serial
Very Dry	0-20%	Less than 171,600	3 cfs	5 fcfs
Dry	20-50%	171,600 to 309,400	9 cfs	20 cfs
Wet	50-80%	309,400 to 598,400	15 cfs	25 cfs
Very Wet	80-100%	More than 598,400	30 cfs	35 cfs

A.9. *CLP* computation.

CLP on a given day is defined as the cumulative unimpaired flow into Lake Pillsbury from the beginning of the current water year to the end of the previous day, ignoring the net evaporation. *CLP* shall be computed as:

*CLP=delta(E01)+cfs2af*sum(E02),*

Where *E01* is the Lake Pillsbury storage in ac-ft, *delta* indicates the change from the beginning of the current water year to the end of the previous day, *cfs2af*=1.98347, *E02* is the measured flow of the Eel River below Scott Dam in cfs, and sum indicate the summation of all daily flows from the beginning of the current water year to the end of the previous day.

A.10. Exceptionally low inflows.

Exceptionally low inflows into Lake Pillsbury, EXCL, are defined in the following table:

Date	Dec 1	Jan 1	Feb 1	Mar 1	Apr 1	May 1
EXCL (ac-ft)	2,000	4,000	7,000	12,000	25,000	40,000

A.11. Index flow computation.

The following index for flow equation defines the distribution of the overall water supply between the downstream Eel River and the Potter Valley Project Diversion:

*Index = 0.7*Eel,*

where *Eel* is the unimpaired flow of the Eel River below Cape Horn Dam.

The index flow variable *Eel* is estimated as:

*Eel = avg[af2cfs*delta(E01)+E11=E16*],

where *avg* indicates the average over the last seven days, *af2cfs*=0.50417,*delta(E01)* is the daily change in storage of Lake Pillsbury in ac-ft, *E11* is the measured release below Cape Horn Dam in cfs, and *E16* is the measured Potter Valley Project diversion in cfs.

B. Minimum flows of the Eel River below Scott Dam

B.1. Minimum flows of the Eel River below Scott Dam, *MF02*, measures at the PG&E gauge E-02, shall be computed as shown in the following table:

Minimum Flow of the Eel River be Scott Dam *MF02*				
Period		Classification		
From	Through	Normal	Dry	Critical
Dec 1	May 31	100 cfs	40 cfs	20 cfs
Jun 1	Nov 30	60 cfs	40 cfs	20cfs

B.2. <u>Classification</u>

- January through June are classified as normal if *CLP(Bom)* > *DRY(Bom)*
- January through June are classified as dry if *CRIT(Bom)* < *CLP(Bom)* < *DRY(Bom)*
- January through June are classified as critical if *CLP(Bom)* < *CRIT(Bom)*
- July through December are classified based on the classification of the previous June
- *DRY(Bom)* and *CRIT(Bom)* are shown in the following table:

Date	Jan 1	Feb 1	Mar 1	Apr 1	May 1	Jun 1
DRY (ac-ft)	19,975	39,200	65,700	114,500	145,600	160,000
CRIT (ac-ft)	3,400	19,500	40,000	45,000	50,000	55,000

B.3. PG&E shall continue to cooperate in the releasing warm water from the spillway of Scott Dam in the later winter/early spring period to promote the timely downstream migration of juvenile Chinook salmon from the Eel River between Scott and Cape Horn Dams.

C. Minimum Flows to the East Branch of the Russian River

C.1. Minimum flows of the East Branch of the Russian River , *MF16*, measured at the PG&E gauge E-16, but excluding flows released for the Potter Valley Irrigation District, shall be computed as shown in the following table:

Minimum Flow of the East Branch Russian River				
Period		Classification		
From	Through	Normal	Dry	Critical
Sep 16	Apr 14	35 cfs	35 cfs	5 cfs
Apr 15	May 14	35 cfs	25 cfs	5 cfs
May 15	Sep 15	75 cfs	25 cfs	5cfs

C.2. Classification

- Classification is the same as described in Section B.2.

C.3. Dry spring exclusion

- From June 1 through September 15, if the month is classified as normal and the inflow into Lake Pillsbury during the preceding April and May is less than 20,000 ac-ft, *MF16* = 40 cfs.

D. Block Water

D.1. 2,500 ac-ft are reserved for release at the discretion of resource agencies each water year.

E. Operating Rules

E.1. Release to the Eel River below Cape Horn Dam shall be greater than or equal to the minimum flow MF11 specified in Section A.

E.2. Release to the Eel River below Scott Dam shall be greater than or equal to the minimum flow MF02 specified in Section B.

E.3. Release to the East Branch Russian River shall be greater than or equal to the minimum flow MF16 specified in Section C plus the release for the Potter Valley Irrigation District.

E.4. Release for the Potter Valley Irrigation District shall not exceed 5 cfs from October 16-April 14 and 50 cfs from April 15 to October 15. If CLP(April 1) is less than 25,000 ac-ft, this release shall not exceed 25 cfs during the following period from April 15 through October 15.

E.5. Diversions in excess of the sum of the minimum flow MF16 specified in Section C and the release to the Potter Valley Irrigation District specified in Section E.4 acan only be made when the Lake Pillsbury Storage is above the Target Storage Curve. Exceptions to the rule can occur only due to rate and brief emergency power and water demands.

E.6. Different Target Storage Curves shall be used depending on the water year classification as of May 15 for the purpose of the summer flow specification.

- If a water year is classified as “Very Wet,” i.e., if the CLP on May 15 is more than 598,000 ac-ft, the Target Storage Curve during the following 12-month period starting on August 1 shall be Target Storage Curve A defined in the following table:

Target Storage Curve A (PG&E “3%” “Low Envelope)

If a water year is classified as “Very Wet” on May 15 for the purpose of the summer flow specification, Target Storage Curve A shall be used in the following 12-month period starting on August 1.

Day	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul
1	69184	55901	41089	28997	23363	22758	30383	49507	70555	80640	82313	78353
2	68806	55431	40574	28709	23263	22805	30793	50400	71058	80830	82255	78157
3	68429	54960	40060	28422	23163	22852	31203	51292	71561	81020	82197	77960
4	68052	54490	39546	28134	23063	22899	31613	52184	72065	81210	82139	77763
5	67674	54019	39032	27846	22962	22946	32023	53077	72568	81400	82081	77567
6	67297	53549	38518	27558	22862	22993	32433	53969	73071	81590	82023	77370
7	66919	53078	38004	27270	22762	23040	32943	54861	73574	81780	81965	77173
8	66542	52608	37490	26982	22662	23087	33253	55754	74077	81970	81908	76977
9	66165	52137	36976	26694	22562	23133	33663	56646	74581	82160	81848	76780
10	65787	51667	36462	26406	22461	23180	34073	57538	75084	82350	81790	76583
11	65410	51196	35948	26119	22361	23227	34482	58431	75587	82540	81732	76387
12	65032	50726	35433	25831	22261	23274	34892	59323	76090	82730	81674	76190
13	64655	50255	34919	25543	22161	23321	35302	60215	76594	82920	81616	75933
14	64277	49785	34405	25255	22060	23368	35712	61108	77097	83110	81558	75797
15	63900	49314	33891	24967	21960	23415	36122	62000	77600	83300	81500	75600
16	63429	48800	33603	24867	22007	23825	37014	62503	77790	83242	81303	75223
17	62959	48286	33315	24767	22054	24235	37907	63006	77980	83184	81107	74845
18	62488	47772	33027	24666	22101	24645	38799	63510	78170	83126	80910	74468
19	62018	47258	32740	24566	22148	25055	39691	64013	78360	83068	80713	74090
20	61547	46744	32452	24466	22195	25465	40584	64516	78550	83010	80517	73713
21	61077	46230	32164	24366	22242	25875	41476	65019	78740	82952	80320	73335
22	60606	45715	31876	24265	22289	26284	42368	65523	78930	82894	80123	72958
23	60136	45201	31588	24165	22336	26694	43261	66026	79120	82835	79927	72581
24	59665	44687	31300	24065	22383	27104	44153	66529	79310	82777	79730	72203
25	59195	44173	31012	23965	22429	27514	45046	67032	79500	82719	79533	71826
26	58724	43659	30725	23865	22476	27924	45938	67535	79690	82661	79337	71448
27	58254	43145	30437	23764	22523	28334	46830	68039	79880	82603	79140	71071
28	57783	42631	30149	23664	22570	28744	47723	68542	80070	82545	78943	70694
29	57313	42117	29861	23564	22617	29154	47723	69045	80260	82487	78747	70316
30	56842	41603	29573	23464	22664	29564		69548	80450	82429	78550	69939
31	56372		29285		22711	29974		70052		82371		69561

- If a water year is classified as either “Wet” or “Dry,” i.e., if the *CLP* on May 15 is between 171,600 ac-ft and 598,400 ac-ft, the Target Storage Curve during the following 12-month period starting on August 1 shall be Target Storage Curve B defined in the following table:

Target Storage Curve B (PG&E “15%” “Low Envelope”)

If a water year is classified as either “Wet” or “Dry” on May 15 for the purpose of the summer flow specification,

Target Storage Curve B shall be used in the following 12-month period starting on August 1.

Day	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July
1	69184	56590	43363	32767	27830	27300	33982	50902	70555	80640	82313	78353
2	68806	56160	42912	32515	27742	27341	34341	51694	71058	80830	82255	78157
3	68429	55730	42462	32263	27655	27382	34700	52487	71561	81020	82197	77960
4	68052	55300	42011	32010	27567	27423	35059	53280	72065	81210	82139	77763
5	67674	54870	41561	31758	27479	27464	35419	54073	72568	81400	82081	77567
6	67297	54440	41110	31506	27391	27505	35778	54865	73071	81590	82023	77370
7	66919	54010	40660	31254	27303	27546	36137	55658	73574	81780	81965	77173
8	66542	53580	40209	31001	27215	27588	36496	56451	74077	81970	81906	76977
9	66165	53150	39759	30749	27128	27629	36855	57244	74581	82160	81848	76780
10	65787	52720	39308	30497	27040	27670	37215	58036	75084	82350	81790	76583
11	65410	52290	38858	30245	26952	27711	37574	58829	75587	82540	81732	76387
12	65032	51860	38407	29992	26864	27752	37933	59622	76090	82730	81674	76190
13	64655	51430	37957	29740	26776	27793	38292	60415	76594	82920	81616	75993
14	64277	51000	37506	29488	26688	27834	38651	61207	77097	83110	81558	75797
15	63900	50571	37056	29236	26601	27876	39011	62000	77600	83300	81500	75600
16	63470	50120	36803	29148	26642	28235	39803	62503	77790	83242	81303	75223
17	63040	49670	36551	29060	26683	28594	40596	63006	77980	83184	81107	74845
18	62610	49219	36299	28972	26724	28953	41389	63510	78170	83126	80910	74468
19	62180	48769	36046	28884	26765	29312	42181	64013	78360	83068	80713	74090
20	61750	48318	35794	28796	26806	29671	42974	64516	78550	83010	80517	73713
21	61320	47868	35542	28709	26847	30031	43767	65019	78740	82952	80320	73335
22	60890	47417	35290	28621	26888	30390	44560	65523	78930	82894	80123	72958
23	60460	46967	35037	28533	26930	30749	45352	66026	79120	82835	79927	72581
24	60030	46516	34785	28445	26971	31108	46145	66529	79310	82777	79730	72203
25	59600	46066	34533	28357	27012	31467	46938	67032	79500	82719	79533	71826
26	59170	45615	34281	28269	27053	31827	47731	67535	79690	82661	79337	71448
27	58740	45165	34028	28182	27094	32186	48523	68039	79880	82603	79140	71071
28	58310	44714	33776	28094	27135	32545	49316	68542	80070	82545	78943	70694
29	57880	44264	33524	28006	27176	32904	49316	69045	80260	82487	78747	70316
30	57450	43813	33272	27918	27217	33263		69548	80450	82429	78550	69939
31	57020		33019		27259	33623		70052		82371		69561

- If a water year is classified as “very Dry,” i.e., if the *CLP* on May 15 is less than 171,6000 ac-ft, the Target Storage Curve during the following 12-month period starting on August 1 shall be Target Storage Curve C defined in the following table:

Target Storage Curve C (PG&E “25%” “Low Envelope”)

If a water year is classified as “Very Dry” on May 15 for the purpose of the summer flow specification,

Target Storage Curve C shall be used in the following 12-month period starting on August 1.

Day	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July
1	69184	57164	45258	35909	31553	31084	36980	52064	70555	80640	82313	78353
2	68806	56768	44860	35686	31475	31121	37297	52773	71058	80830	82255	78157
3	68429	56372	44463	35463	31398	31157	37614	53483	71561	81020	82197	77960
4	68052	55976	44065	35241	31320	31193	37931	54193	72065	81210	82139	77763
5	67674	55580	43668	35018	31243	31230	38248	54903	72568	81400	82081	77567
6	67297	55183	43270	34796	31165	31266	38565	55612	73071	81590	82023	77370
7	66919	54787	42783	34573	31088	31302	38882	56322	73574	81780	81965	77173
8	66542	54391	42475	34351	31010	31338	39199	57032	74077	81970	81906	76977
9	66165	53995	42078	34128	30933	31375	39516	57742	74581	82160	81848	76780
10	65787	53599	41680	33905	30885	31411	39833	58451	75084	82350	81790	76583
11	65410	53202	41283	33683	30778	31447	40150	59161	75587	82540	81732	76387
12	65032	52806	40885	33460	30700	31484	40467	59871	76090	82730	81674	76190
13	64655	52410	40488	33238	30623	31520	40784	60581	76594	82920	81616	75993
14	64277	52014	40090	33015	30545	31556	41101	61290	77097	83110	81558	75797
15	63900	51618	39693	32793	30468	31593	41418	62000	77600	83300	81500	75600
16	63504	51220	39470	32715	30504	31909	42127	62503	77790	83242	81303	75223
17	63108	50823	39247	32638	30540	32226	42837	63006	77980	83184	81107	74845
18	62711	50425	39025	32560	30576	32543	43547	63510	78170	83126	80910	74468
19	62315	50028	38802	32483	30613	32860	44256	64013	78360	83068	80713	74090
20	61919	49630	38580	32405	30649	33177	44966	64516	78550	83010	80517	73713
21	61523	49233	38357	32328	30685	33494	45676	65019	78740	82952	80320	73335
22	61127	48835	38134	32250	30722	33811	46386	65523	78930	82894	80123	72958
23	60730	48438	37912	32173	30758	34128	47095	66026	79120	82835	79927	72581
24	60334	48040	37689	32095	30794	34445	47805	66529	79310	82777	79730	72203
25	59938	47643	37467	32018	30830	34762	48515	67032	79500	82719	79533	71826
26	59542	47245	37244	31940	30867	35079	49225	67535	79690	82661	79337	71448
27	59145	46848	37022	31863	30903	35396	49934	68039	79880	82603	79140	71071
28	58749	46450	36799	31785	30939	35713	50644	68542	80070	82545	78943	70694
29	58353	46053	36576	31708	30976	36060	50644	69045	80260	82487	78747	70316
30	57957	45655	36354	31630	31012	36347		69548	80450	82429	78550	69939
31	57561		36131		31048	36663		70052		82371		69561

F. Non-Flow Provisions

- In addition to flow provisions, this proposal also calls for the following non-flow measures:

F.1. Cape Horn Dam will be modified to allow accurate regulation of the required minimum flows.

F.2. PG&E shall provide $60,000 annually in order to fund the costs of implementing the pikeminnow suppression program and monitoring requirements of this RPA and Incidental Take Statement. PG&E shall credit an annual additional $60,000 to the Fund on January 1 of each year after the first year for the remaining term of the license, including any annual licenses which may be issued after license expiration. The unspent balance of the Fund shall accrue interest at the 90-day commercial paper rate as determined by the Federal Reserve Bank of New York, credited on a quarterly basis. The account can be used for the evaluation of the impacts of higher summer flows on salmonid and pikeminnow abundance and related predation impacts, pikeminnow suppression efforts, Chinook salmon hatchery supplementation, or funding for a scientific aide at Van Arsdale Fishery Station. Decisions on the expenditures to be charged to the Fund will be made by National Marine Fisheries Service (NMFS) in consultation with PG&E, the resource agencies, and RVIT. PG&E shall distribute an accounting statement to NMFS within 30 days afer January 1 of each year after the fund is established, summarizing the Fund balance, accrued interest, and previously charged accounts.

G. Implementation and Compliance Issues

G.1. PG&E shall develop and maintain a publicly accessible Internetsite on which the relevant flow measurements and the calculated minimum flow requirements can be reviewed by the fisheries resource agencies and general public.

G.2. PG&E shall, in coordination with the resource agencies, develop a five year adaptive management plan for the suppression of Sacramento pikeminnow. The plan should concentrate on efforts to suppress pikeminnow in the reach of the Eel River between Scott Dam and Van Arsdale Reservoir, in Van Arsdale Reservoir and around and below both dams. The adaptive management plan should accomplish the following objectives:

- Quantify pikeminnow and steelhead distribution, abundance, and size-class structure in the Eel River between Scott and Cape Horn Dams.

- Employ and evaluate various techniques for pikeminnow suppression.

- Monitor immediate effects of suppression efforts on rearing steelhead, pikeminnow, and other species.

- Monitor the response of pikeminnnow and rearing juvenile steelhead at the end of the summer following suppression efforts.

.

APPENDIX B

NOAA FISHERIES' REASONABLE AND PRUDENT MEASURES AND IMPLEMENTING TERMS AND CONDITIONS

Measure 1. Pikeminnow Supression. The licenses shall develop in consultation with the National Marine Fisheries Service (NMFS), U.S. Fish and Wildlife Service (USFWS), U.S. Forest Service (USFS), Round Valley Indian Tribes (RVIT), and California Department of Fish and Game (CDFG) an adaptive management plan for the suppression of pikeminnow in and around the Project area as specified in the Reasonable and Prudent Measures (RPA) attached to the body of this order as Appendix A. The plan shall specify details of activities to suppress pikeminnow, including methods, the establishment of index pools, and shall define success criteria.

The following terms and conditions implement Measure 1: By April 15, 2003, the Licensee shall file a pikeminnow adaptive management plan for the suppression of pikeminnow for NMFS approval. Prior to filing its plan with NMFS, the Licensee shall consult with NMFS, USFWS, USFS, RVIT, and CDFG on the proposed pikeminnow adaptive management plan. The Licensee shall include with the plan documentation of any consultation with RVIT and the agencies, copies of comments and recommendations on the completed plan after it has been prepared and provided to the RVIT and agencies, and specific descriptions of how the RVIT's and agencies' comment and recommendations are accommodated by the plan. The licensee shall allow a minimum of 30 days for the agencies to comment and make recommendations before filing the plan with NMFS. If the Licensee does not adopt a recommendation, the filing shall include its reasons, based on site-specific information. The NMFS shall reserve the right to require changes to the plan. The plan shall be delivered to:

Northern California Supervisor
Protected Resources Division
777 Sonoma Avenue, Room 325
Santa Rosa, California 95404-4731

Measure 2. Pikeminnow Supression Operation Plan. For each year of the remaining term of the license, including any extensions or annual licenses which may be issued, the Licensee shall with NMFS for approval a pikeminnow suppression operations plan. The operations plan shall include at a minimum: 1) specific activities planned, and provisions for funding and monitoring; 2) the status of ongoing activities and results of any salmonid or pikeminnow related monitoring studies; 3) the success of pikeminnow suppression efforts; 4) any recommended modifications to project facilities or operations and other recommended actions to minimize pikeminnow predation on listed salmonids in the Eel River system.

The following terms and conditions implement Measure 2: The Licensee shall annually filed with NMFS for approval a pikeminnow suppression operations plan. The plan shall include details of specific activities planned for pikeminnow suppression, specify flow manipulations, and specify areas to be treated. Suppression efforts should focus on suppressing pikeminnow in the reach of Eel River between Scott Dam and the Van Arsdale Reservoir, in the Van Arsdale Reservoir, and around and below both dams. Also, each annual operations plan shall consider the results of previous year plans in justification of the current year operations. The operations plan for the current year shall be filed with NMFS by June 1 of each year. The NMFS shall reserve the right to require changes in the plan. The plan shall be delivered to the Northern California Supervisor of the Protected Resources Division at address indicated above.

The Licensee shall annually file with NMFS the results of salmonid or pikeminnow related monitoring studies, and report on the success of pkeminnow suppression efforts. In addition, the Licensee may make recommendations for modifications to the Project facilities or operations and other recommended actions to minimize pikeminnow predation on listed salmonids in the Eel River system. Results shall be filed by April 15 of each year. Results shall be delivered to the Northern California Supervisor of the Protected Resources Division at the address indicated above.

Measure 3. Flow Verification. The Licensee shall develop a system for verification of flows below the Project in the Eel River and for compliance with the RPA in Appendix A.

The following terms and conditions implement Measure 3: The Licensee shall develop and implement a system to enable NMFS and the other resource agencies to monitor Eel River flows immediately below the Project on a real-time basis. Gauge E-11 below Cape Horn Dam, for example, may be equipped to provide real-time flow date, or another system shall be developed to provide Eel River flow data below the Project and accessible by the resource agencies 24 hours a day.

Measure 4. Funding Requirement. The Licensee shall provide $60,000 annually to find the implementation of the pikeminnow suppression program and monitoring requirements of the RPA in Appendix A and this Incidental Take Statement. In addition, the Licensee shall report to NMFS annually the numbers of anadromous salmonids counted at Van Arsdale Fish Station, Coyote Dam, and Warm Springs Dam, and the findings of all fishery surveys conducted by the Licensee or others.

The following terms and conditions implement Measure 4. The Licensee shall, within six months from the date of issuance of the order to which this Incidental Take Statement is appended, establish a tracking account (the Fund) for the purpose of financing Project-related activities and monitoring. Such activities include implementing the pikeminnow suppression program and monitoring requirements of the RPA and Incidental Take Statement. The Licensee shall initially establish the Fund in the amount of $60,000. On

January 1 of each year thereafter, the Licensee shall credit an additional $60,000 to the Fund for the remaining term of the license, including any annual licenses which may be issued after the license expires. The unspent balance of the Fund shall accrue interest at the 90-day commercial paper rate as determined by the Federal Reserve Bank of New York, credited on a quarterly basis. The Licensee shall administer the Fund and decisions on expenditures from the Fund shall be made by NMFS in consultation with the Licensee, the resource agencies, and RVIT. The Licensee shall distribute an accounting statement to NMFS within 30 days after January 1 of each year after the Fund is established, summarizing the Fund balance, accrued interest, and previously charge amounts.

The Licensee shall compile all fish count data from the Eel and Russian Rivers annually, including the results of surveys conducted by the Licensee or other parties. These data will be presented in report form to NMFS by May 1 of each year, and will be used to assess the level of Project impacts. This report shall be delivered to the Northern California Supervisor of the Protected Resources Division at the address indicated above.

Measure 5. Flow Regulation. The Licensee shall provide accurate regulation of the flows as called for in the RPA.

The following terms and conditions implement Measure 5: The License shall modify Cape Horn Dam to allow for accurate regulation of the higher minimum flows, up to 200 cubic feet per second, provide for in the RPA.

Measure 6. Notification Requirement. The Licensee shall notify the State Water Resources Control Board (Board) how minimum flow requirements are modified in order that the Board may consider the efficacy of its Decision 1610 as it regards Russian River flows.

The following terms and conditions implement Measure 6: The Licensee shall notify the Board how minimum flow requirements are modified so that the Board may consider whether to modify its Decision 1610 and specify new minimum flows in the Russian River.

Measure 7. Van Arsdale Fish Screen. The Licensee's operation of the fish screen at Van Arsdale diversion dam shall be reviewed and approved by NMFS prior to implementation of the RPA.

The following terms and conditions implement Measure 7: The Licensee shall submit a screen operations plan and a biological rationale therefore to NMFS for approval within 90 days following the commencement of implementation of the RPA. The screen operations plan shall be delivered to the Northern California Supervisor of the Protected Resources Division at the address indicated above.

Measure 8. The Licensee shall develop in consultation with the resource agencies a suitable program to monitor and assess the summer flow component of the RPA with respect to the anticipated biological benefits to salmonids. This will include a temperature monitoring component and a summer rearing monitoring component in order to provide biological information on the performance of the RPA under different summer flow regimes.

The following terms and conditions implement Measure 8: By April 15, 2004, the Licensee shall file a temperature monitoring plan for NMFS approval. This plan should include annual water temperature monitoring from May to October in the mainstem Eel River from above Scott Dam to below the confluence with the South Fork Eel River. Monitoring sites that were established by the Humboldt County Resource Conservation District for the Eel River Water Quality Monitoring Project should be used. If the Eel River Water Quality Monitoring Project continues, then the Licensee can rely on that project to fulfill this water temperature monitoring plan requirement. The plan must include annual water temperature monitoring from spring to fall for the mainstem Eel River above Scott Dam to the mainstem Eel River below the confluence with the South Fork Eel River. This will provide useful information on how various summer flow releases from Cape Horn Dam affect water temperatures in the mainstem Eel River. Prior to filing its plan with NMFS, PG&E shall consult with the resource agencies and RVIT on the proposed plan. The NMFS reserves the right to require changes in the plan. The plan shall be delivered to the Northern California Supervisor-Protected Resources Division at the address indicated above.

By April 15, 2004, the Licensee shall file a summer rearing monitoring plan for NMFS approval. This plan should include provisions of annual monitoring of rearing steelhead and pikeminnow in the mainstem Eel River below Cape Horn Dam to below the confluence with Outlet Creek. Previously established sites (VTN and ten-year study) with additional sites shall be monitored annually. This will provide useful information on how various summer flow releases from Cape Horn Dam affect steelhead and pikeminnow populations. Prior to filing its plan with NMFS, the Licensee shall consult with the resource agencies and RVIT on the proposed plan. The NMFS reserves the right to require changes in the plan. The plan shall be delivered to the Northern California Supervisor-Protected Resources Division at the address indicated above.

The Licensee shall file with NMFS annually the result of the temperature and summer rearing monitoring program in report form. Results shall be filed by May 1 of each year and shall be delivered to the Northern California Supervisor-Protected Resources Division at the address indicated above.

After ten years of monitoring, the summer flow component of the RPA will be reevaluated based on results provided in the annual reports. If NMFS determines that the summer flow component of the RPA is not providing the anticipated benefits to salmonids, then NMFS will re-evaluate this component of the RPA to determine if additional measures or changes in flow are necessary.

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Pacific Gas and Electric Company Project No. 77-110

(Issued January 28, 2003)

Nora Mead BROWNELL, Commissioner *concurring*:

1. This order concludes that the Commission is legally bound to adopt the recommendations in NOAA Fisheries' Biological Opinion. I agree with that conclusion. In light of that conclusion, I think it is both unnecessary and counterproductive to take a position on the analyses and recommendations in the EIS, and I decline to join in the portions of this order that do so.

Nora Mead Brownell

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Pacific Gas and Electric Company Project No. 77-110

(Issued January 28, 2004)

KELLY, Commissioner, concurring:

As the order points out, the National Environmental Policy Act requires that this Commission examine a reasonable range of alternatives to a proposed action. See P 41. To satisfy this responsibility, Commission staff prepared an Environmental Impact Statement (EIS).

However, after Commission staff completed the EIS, NOAA Fisheries issued a final Biological Opinion in accordance with 50 C.F.R. § 402.14 (2003). See P 30. In this case, the Commission is legally bound to adopt NOAA Fisheries' recommendations. Since the Commission staff's EIS is already in the record, further discussion of the EIS in this order is not necessary now that the final NOAA Fisheries Biological Opinion has been issued.

_____
Suedeen G. Kelly