



March 26, 2015

Peter Barnes, Engineering Geologist
State Water Board Resources Control Board
Division of Water Rights
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Via e-mail

Re: Comments of California Sportfishing Protection Alliance and American Whitewater on the *Draft Environmental Impact Report for the Water Quality Certification of Pacific Gas & Electric Company's Upper North Fork Feather Hydroelectric Project, Federal Energy Regulatory Commission Project No. 2105*

Dear Mr. Barnes:

The California Sportfishing Protection Alliance (CSPA) and American Whitewater (AW) respectfully submit comments on the *Draft Environmental Impact Report for the Water Quality Certification of Pacific Gas & Electric Company's Upper North Fork Feather Hydroelectric Project, Federal Energy Regulatory Commission Project No. 2105* (DEIR). Both CSPA and AW are signatories to the April 22, 2004 Project 2105 Settlement Agreement. That Settlement resolved many of the issues relating to the relicensing of the Upper North Fork Feather Project ("Project"), but left unresolved issues relating to water temperature, not only in the bypassed reaches of the Project, but also in the bypassed reaches of the Rock Creek – Cresta and Poe hydroelectric projects downstream (FERC No. 1962 and No. 2107 respectively).

CSPA and AW appreciate the fact that Board staff took on the issue of water temperature in the North Fork Feather River in 2005, following the failure of FERC to take it on in relicensing and the lack of resolution on this issue in Settlement. CSPA and AW consider water temperature to be the single greatest aquatic issue still facing the North Fork Feather River (NF Feather River or NFFR) from Lake Almanor to Oroville Reservoir. Fulfillment of the benefits achieved in the Rock Creek – Cresta Settlement (2001), to which CSPA and AW are also both signatory, has equally been significantly held in abeyance pending the Certification of the Upper North Fork Feather Project. The Rock Creek – Cresta Settlement explicitly points to the need to address water temperature issues upstream. In over ten years of license implementation on the Rock Creek – Cresta Project,¹ it has been abundantly confirmed that water temperatures on this

¹ The Rock Creek – Cresta Project is located immediately downstream of the Upper North Fork Feather Project. The head of Rock Creek Reservoir is less than a mile downstream of Belden Powerhouse, for which Rock Creek Reservoir effectively serves as an afterbay.

downstream project and its bypassed reaches are almost completely dependent on input temperatures from the Upper North Fork Feather Project immediately upstream. In short, PG&E cannot significantly reduce summer water temperatures in the Rock Creek, Cresta and Poe² reaches without reducing summer water temperatures at Belden Reservoir, in the Upper North Fork Feather Project. Releasing larger volumes of warm water from Rock Creek, Cresta and Poe dams will not make the water cooler. The Level 1 and 2 Report and the Level 3 Report that preceded this DEIR provided extensive technical data and analysis of this thermal reality.³ As stated succinctly in the Level 3 Report: “The water temperature profile of the NFFR is primarily driven by the Belden Reservoir water temperature, which in turn is controlled by the Lake Almanor and Butt Valley Reservoir outflow temperatures.”⁴

State Board staff recognized the controlling water temperature function of releases from Belden Forebay in 2005 or earlier. Since 2005, Board staff has persevered in pursuit of improving NF Feather River water temperatures, in spite of several personnel changes and until recently a general shortage of capacity. We appreciate the fact that the DEIR has finally seen light of day, and we urge the Board to recognize and do justice to the decade of staff dedication that went into it.

We are disappointed, however, that after ten years, the DEIR contains fundamental flaws that will require it to be recirculated or, at the very least, supplemented. However, we believe that the necessity of correcting the flaws in this DEIR presents Board staff with an opportunity to affirmatively address concerns that were raised at the February 11, 2015 public comment meeting in Chester, and that are raised in written comments. The Board can address key issues in a recirculated DEIR or in a supplement to the DEIR without extensive additional data gathering. At the same time, the Board will also have the opportunity to address important alternative mitigations that have the potential to meet multiple interests, including most notably those of Plumas County and its residents.

The DEIR is substantially flawed because:

The DEIR does not present evidence to demonstrate the benefit of the preliminary staff alternative. This alternative will not bring the Project into compliance with the Clean Water Act. In lieu of such compliance, the DEIR proposes “adaptive management” without definition, boundary, timelines, or triggers, improperly and indefinitely further delaying enforcement of the Clean Water Act after ten years of delay.

The DEIR does not present a reasonable range of alternatives.

² The Poe Project is located just downstream of Cresta Powerhouse. Cresta Powerhouse is located at the bottom of the Cresta reach at the head of Poe Reservoir; the Poe reach of the North Fork Feather River is immediately downstream of Poe Reservoir, and ends at Poe Powerhouse, several miles upstream of the high water pool of Oroville Reservoir. While modeling shows that it is not possible to cool the entire Poe reach, it is definitely possible to cool the upper mile of the Poe reach in the area near the settlement of Pulga, which is both accessible to anglers and the most important part of the reach for trout.

³ The Level 1 and 2 Reports and the Level 3 Report are included in the DEIR as Appendix D and Appendix E, respectively.

⁴ Level 3 Report, DEIR Appendix E, p. 2-4.

The DEIR does not present evidence to explain why it deems infeasible an alternative to release 600 cfs from Canyon Dam in July and August to cool the North Fork Feather River.

The DEIR relies on previous modeling that grouped various mitigation elements into various combinations, but did not isolate the thermal benefits of specific elements. In addition, the DEIR does not present model output for the precise alternatives described in the DEIR, including the Preliminary Staff Recommendation, relying instead on inaccurate approximations that can be gleaned from previously modeled combinations of elements.

The DEIR does not propose adequate mitigation for project effects on the cold water habitat in Lake Almanor.

Additionally, the DEIR recommends measures beyond the clear scope of the need to improve cold water habitat. The DEIR unilaterally proposes changes to the Project 2105 Settlement Agreement that would leave other project impacts unmitigated and that could affect the balancing of resources agreed upon in relicensing.

We elaborate on these issues, and make a series of recommendations, below.

I. The Project substantially impairs the cold water resources of the North Fork Feather River.

Summer water temperatures in the North Fork Feather River downstream of Caribou Powerhouse and Belden Reservoir cannot in any sense be construed as protective of cold water beneficial uses. Summer water temperatures on the Rock Creek and Cresta reaches are simply too warm. Since 2006, PG&E has provided summer water temperature data on a weekly basis to members of the Rock Creek – Cresta Ecological Resources Committee (ERC), a license implementation advisory body whose monthly meetings are faithfully attended by CSPA and AW and by a representative of State Board staff. This data is summarized in Annual Reports for the Rock Creek – Cresta Project that PG&E files each year, but the Annual Reports do not provide daily data. In all but the wettest years (e.g. 2011) mean daily water temperatures on the Rock Creek and Cresta reaches routinely exceed, for multiple consecutive weeks, the FERC-established benchmark of 20°C. The following table, compiled from weekly PG&E data provided to Rock Creek – Cresta ERC members, shows mean water temperatures from the summer of 2014.

Dates (2014)	NF-57 (Rock Creek reach below Rock Creek dam)		NF-56 (Cresta reach below Grizzly Creek)	
	Weekly mean of mean daily water temperature	Weekly mean of maximum daily water temperature	Weekly mean of mean daily water temperature	Weekly mean of maximum daily water temperature
7/6-7/12	21.5	22.4	21.6	23.1
7/13-7/19	21.9	22.7	22.3	23.8
7/20-7/26	21.0	21.8	21.3	22.9
7/27-8/2	22.1	22.9	22.1	23.7

8/3-8-9	21.6	22.2	21.6	22.8
8/10-8/16	21.2	22.2	21.5	22.9
8/17-8/23	20.0	21.3	20.8	22.4
8/24-8/30	20.8	21.6	20.8	22.3

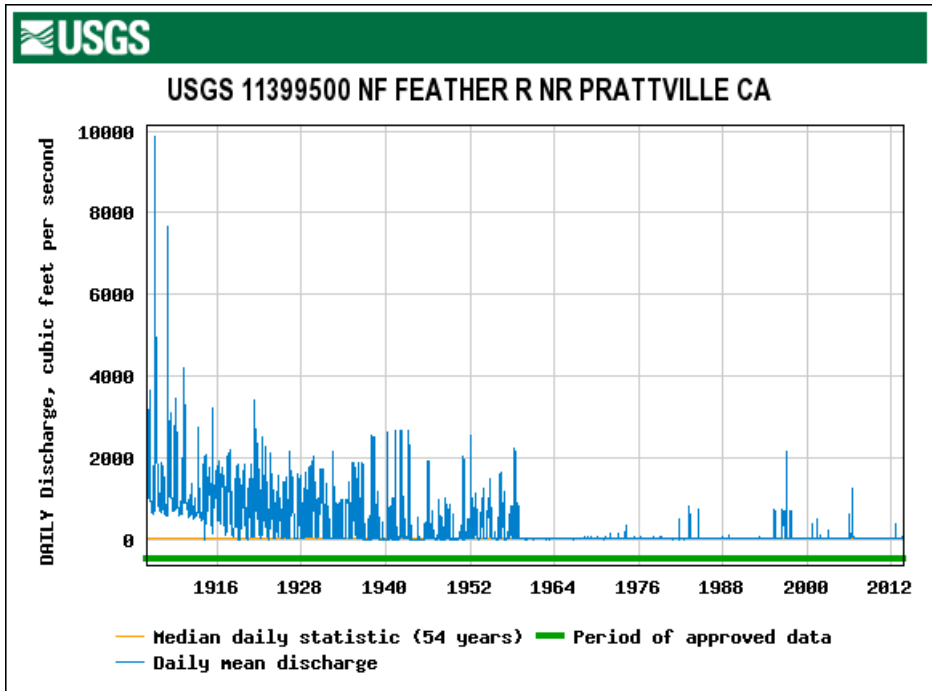
In considering this data, one must take into account that the temperature monitoring stations are located in the stream channel near the upstream end of each reach. Temperatures increase as water moves downstream. In addition, the weekly mean of the maximum daily water temperature does not highlight the highest temperatures recorded in any given week. On the Rock Creek reach, the weekly highs (°C) for the time period shown in the chart above were 22.9, 22.7, 22.4, 23.4, 22.8, 22.6, 21.8, and 22.3. On the Cresta reach, the weekly highs (°C) for the time period shown in the chart above were 23.8, 23.8, 23.5, 24.0, 23.7, 23.4, 22.8, and 22.9.

The average daily data for July and August 2014 generally show water temperature values for the Rock Creek and Cresta reaches that are lower than the 10% exceedance values shown for baseline conditions shown in DEIR Appendix F, Figures 7 and 8.⁵

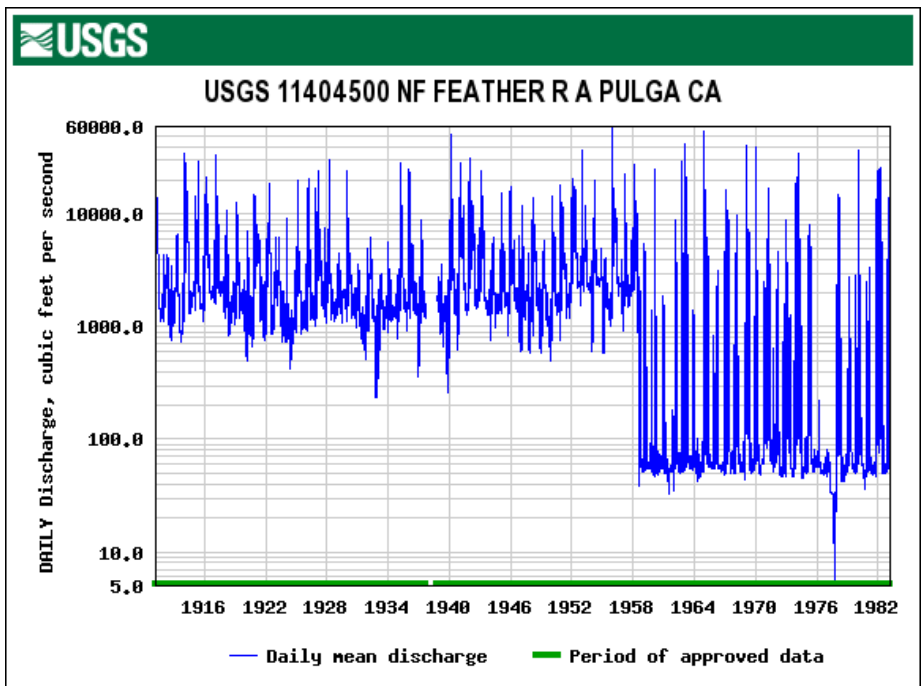
Some commenters at public meetings related to this Certification have suggested that the North Fork Feather River was not reliably a cold water resource prior to PG&E’s construction of its hydroelectric system. Springs now submerged under Lake Almanor produce summer flow of 700-1000 cfs; the claim that the system was not cold in a state of nature is simply untrue. On the contrary, the North Fork Feather River is one of two major spring-fed river systems in the Sacramento – San Joaquin watershed (the other being the upper Sacramento River complex). As such it is likely the most aquatically impaired river system of any system in California.

The record for the USGS gauge on the North Fork Feather River near Prattville, located just below Canyon Dam, clearly shows the impact of hydroelectric development on the North Fork Feather River. This record includes the period from 1906 to 1914, before the first incarnation of Canyon Dam was constructed. The record shows that pre-project flows rarely dropped below 1000 CFS. After the dam’s construction, flow still remained relatively high until the middle part of the last century. After the final raise of Canyon Dam was completed in 1962, over 95% of the flows were being diverted from the upper reaches of the North Fork Feather River.

⁵ DEIR Appendix F, pp. A-23 and A-24.



The USGS Pulga gauge, located near the bottom North Fork feather system, tells a similar story. This gauge just below the Poe Dam shows that typical summer base flows were often above 2000 cfs. After the Poe project was completed in 1958, high flows in the springtime continued to occur sporadically in the lower river, but summer base flows were reduced to less than 100 cfs.



The weekly DWR Bulletin 120 for March 9, 2015 forecast of unimpaired runoff shows that even in September of what is now tracking as the worst water year since 1950, the Feather River system is forecasted to have an estimated monthly unimpaired flow of 60,000 acre-feet, or average daily inflow to Oroville Reservoir of about 1010 cfs.⁶ The vast majority of that flow would come from the springs feeding the North Fork; those springs are now submerged in Lake Almanor.⁷ While many rivers below dams in California actually see enhanced late summer base flows with cold water releases from the bottom of reservoirs to provide managed cold water habitat, this is simply not the case on the North Fork Feather River. Far from providing a summer benefit, the removal of over 95% of the summer base flow on the Seneca reach and the rerouting of water from a warmer water source in Lake Almanor through the thermal sink of Butt Valley Reservoir has had a devastating impact on the cold water habitat of the North Fork Feather River, from Lake Almanor downstream to Oroville Reservoir.

II. The DEIR does not describe the economic impacts to Plumas County of the loss of the NF Feather River fishery due to the construction of the Rock Creek – Cresta Project, and does not describe the potential economic benefit of a restored NF Feather fishery.

It was not always so. A report published in 1952 estimated the number of angler days on the NF Feather River to 36,000 per year, or about 180 per day over the fishing season.⁸ Clients at two resorts at Belden and across the river near the mouth of Yellow Creek were estimated to account for 6000 of these angler days. Almost half the anglers were estimated to have travelled from the Bay Area. The report suggested: “Due to the highly accessible location of the North Fork it would be inevitable that without power development it would eventually become one of the most heavily fished trout streams in California. The recreational value of this canyon would rank well up among similar areas in the State.”⁹

In its 1996 Environmental Assessment for the issuance of a new license for the Rock Creek – Cresta Project, FERC and the Forest Service jointly recognized the well-documented decline of the sport fishery since the construction of the Rock Creek – Cresta Project:

Before the construction of the Rock Creek – Cresta Project in 1950, an excellent sport fishery for rainbow trout and brown trout existed in the NFFR reach now bounded by the Rock Creek development. The NFFR reach now bounded by the Cresta development was limited, however, to early season use because of warm, midsummer temperatures (FS, 1938; Wales and Hansen, 1947; FWS, 1948). A pre-project study in 1946 estimated annual angler effort within the project area at 31,500 days (FWS, 1948). From 1981-1985, annual angler effort was estimated at 21,316 angler hours (9,560 angler days) (CDFG, 1988). The creation of the reservoirs, along with flow reduction in the bypass

⁶ <http://www.cdec.water.ca.gov/cgi-progs/ioidir/B120>

⁷ The USGS gauge on the unregulated Middle Fork Feather at Merrimac recorded a September, 2014 low flow of 160 cfs. The 2014 water year was comparably grim to the 2015 water year. The South Fork Feather provides far less flow than the Middle Fork. One can very reasonably assume that even in these very driest of water years, unimpaired flow on the North Fork Feather would be about 800 cfs.

⁸ Wales and Hansen (1952), *The Effect on the Fishery of the North Fork of the Feather River, California, of Proposed Hydro-electric Developments, with Special Reference to the Cresta and Rock Creek Projects*. Attached to these comments as Appendix 2.

⁹ *Id.* p. 17.

reaches and increased water temperatures, changed the NFFR's aquatic habitat to favor non-game species rather than trout (FWS, 1962; Moyle et al, 1983; PG&E, 1979).¹⁰

The Rock Creek – Cresta Settlement Agreement explicitly sought to restore the NF Feather fishery to its historic greatness. The parties to this agreement, including PG&E and Plumas County, as well as CSPA and AW, set forward fishery goals for the Rock Creek and Cresta reaches based on historic conditions. The Rationale Report for the Rock Creek – Cresta Settlement explicitly recognizes this in the description of the “Fishery Objective”:

Achieve a desired goal of an excellent trout fishery and functioning ecosystem to all naturally occurring species. According to the best available information on conditions prior to the Project (Rowley 1955a, 1955b, Gerstung 1973, Snider and Linden 1980, California Trout, 1998) fishery performance criteria will include:

- a. Wild rainbow trout population with 4 age classes.
- b. Fish catch 80% wild trout/ 20% non-game fish.
- c. Average wild trout caught > 9.7 inches fork length.
- d. Adult rainbow trout available for catch > 17 inches.
- e. Harvestable component of 595 lbs/mile wild trout.
- f. Wild trout biomass 62 lbs/acre (catch).
- g. Angler catch rate of one fish per angling hour including catch and release.¹¹

To date, some, but not all of the Rock Creek – Cresta fishery objectives have been achieved. All four age classes are present in the two project reaches, and the average trout exceeds 9.7 inches in length. Fish over 17 inches in length are caught. However, the catch ratio of wild trout to non-game fish is often not met, the catch rate is generally not met, and the biomass and harvestable component objectives have not been met.

While the NF Feather River fishery has partly recovered since the relicensing of the Rock Creek – Cresta Project, it has in no sense recovered the stature it enjoyed pre-project. The 2011 Creel Census prepared for the Rock Creek – Cresta ERC reported a projected number of anglers between 997 and 2,573 for the years between 2002 and 2011.¹² The NF Feather River receives occasional notice in fishing reports, but is not guided regularly and does not receive a lot of fishing pressure.

The partial recovery of the NF Feather River fishery in the last fifteen years encouraging, but it is only a small step towards recapturing the historic value and present potential of the NF Feather River's recreational fishery. According to a report prepared by ECONorthwest for CSPA and AW, “Those 36,000 angling days that occurred on the NFFR in the 1940s would be

¹⁰ Federal Energy Regulatory Commission and U.S. Forest Service, *Draft Environmental Assessment for New License, Rock Creek – Cresta Hydroelectric Project*, November 1996, p. 47. See FERC eLibrary 19961108-0259.

¹¹ *Rationale Report for the Rock Creek – Cresta Relicensing Settlement Agreement*, November 21, 2000, p. 5.

¹² Meadowbrook Conservation Services and Garcia & Associates, *2011 Angler Creel Survey*, April 2012. Submitted to Rock Creek – Cresta ERC, p. 3.

worth approximately \$4 million annually in today's dollars."¹³ Please see Appendix 1 to these comments for additional analysis of the economic consequences of the decline of the recreational fishery on the NF Feather River and of the opportunities that a restored fishery could provide.

III. The DEIR does not include the Preliminary Staff Recommendation as an alternative and does not provide technical analysis of its potential benefits and effects. The Preliminary Staff Recommendation will not improve the temperatures in the NF Feather River downstream of Rock Creek Reservoir sufficiently to protect cold water beneficial uses.

The DEIR does not contain a preferred alternative. Instead, the Notice of Availability for the DEIR contains a "Preliminary Staff Recommendation" that would limit required actions to reduce summer water temperatures in the North Fork Feather River to a release of "up to 250 cfs" from the low level outlet at Canyon Dam from June 15 to September 15 each year, combined with some summer flow augmentations in the Seneca and Belden reaches over and above the flows agreed to in Settlement and included in the Forest Service's 4(e) conditions.¹⁴

Staff's preliminary recommendation to release "up to 250 cfs" down the Seneca reach from June 15 to September 15 for temperature improvement would not be additive to the required minimum flow for the Seneca reach; part of the required flow would be provided by the minimum flow required specifically for aquatic resources in the Seneca reach. Thus, the maximum amount of water actually being required for temperature improvement to maintain cold freshwater habitat in entire NF Feather River is the differential between 250 cfs and required minimum flows. Under the Settlement Agreement and Forest Service 4(e) conditions, September flows for the Seneca reach in all year types are 60 cfs; Wet year flows in June for the Seneca reach are 150 cfs. Otherwise stated, the maximum flow augmentation specifically for temperature improvement for *all reaches* of the NF Feather River downstream of Lake Almanor would be limited to increases of between 190 cfs and 100 cfs over three months, in the Seneca Reach alone.

As noted above, it is actually unclear what the Preliminary Staff Recommendation is. Is the recommendation to release 250 cfs from Canyon Dam each June 15 – September 15, or is it to release some amount less than that? What does "up to 250 cfs" actually mean? If it means less, how is that amount to be determined and how is it to be written as an enforceable condition?

Assuming for the moment that the requirement would be to release 250 cfs from the low level outlet at Canyon Dam continually from June 15 through September 15, the DEIR makes no showing that this (in combination with the "alternative minimum flows") would sufficiently cool the NF Feather River to bring it into conformance with the 20°C benchmark in any of the reaches

¹³ Sarah Reich and Ed MacMullan, ECONorthwest, *Comments on the DEIR for the Upper North Fork Feather River Hydroelectric Project: Economic Issues Related to Coldwater Angling and Whitewater Boating*. March 25, 2015. Attached to these comments as Appendix 1.

¹⁴ The flow augmentations recommended by Board staff in the DEIR for the Seneca and Belden (called "the alternative minimum flows" in the DEIR) reaches are described in Chapter 4 of the DEIR (Alternatives) on pp. 4-9 and 4-10, and are shown side-by-side with the Project 2105 Settlement flows on page 3 of Appendix E1. We discuss the "alternative minimum flows" and our belief that they inappropriately conflict with the Project 2105 Settlement in a separate section of these comments below.

downstream of Belden Reservoir with any consistency. In fact, the DEIR inexplicably presents no modeling results for the Preliminary Staff Recommendation at all. On a very crude basis, comparison of alternatives 3 and 4a in the Level 3 Report suggest that the maximum temperature benefit in the Rock Creek and Cresta reaches of the 250 cfs augmentation in the Seneca reach would be at most 1°C.¹⁵

CSPA and AW did not wait ten years for a summer water temperature improvement in the Rock Creek and Cresta reaches of less than 1°C. Even less did we wait ten years for staff to further kick the can down the road by recommending “adaptive management based on monitoring.” Staff can perform temperature modeling of its Preliminary Recommendation on a stand-alone basis and tell the Board in a matter of weeks what its proposed measures will do. The cooling benefit of a release of 250 cfs into the Seneca reach on a stand-alone basis must be separately modeled to be accurately understood. Staff should perform that modeling and report the results forthwith.

If indeed an adaptive management program were to go forward as an outcome of Certification, it would need to start from and be based on these modeling results and on additional modeling described below that staff has yet to perform. The absence of a clearly defined expected or desired outcome to test is a central defect of the Preliminary Staff Recommendation that the Certification should require “adaptive management.” In contrast, the Rock Creek – Cresta Settlement defined clear thresholds to measure success, both for fisheries (as quoted above) and for water temperature (20°C average daily temperature).

The “adaptive management” that is the final element of the proposed Preliminary Staff Recommendation has additional foundational shortcomings.¹⁶ The Recommendation does not say what adaptive management would monitor, what the timelines for monitoring would be, what metrics for success or failure it would apply, or who would evaluate monitoring results and decide on additional measures. Its sole definitive aspect is the prospective remedy: install a thermal curtain or curtains that Plumas County and users of Lake Almanor are 100% dead against.

The State Board has a readily available model of adaptive management, should the Board decide that adaptive management is an appropriate component of Certification. The Rationale Report for the Rock Creek – Cresta Settlement provides a clear description of necessary elements of its adaptive management program:

The Adaptive Management program established in the Settlement provides resource managers with the opportunity to set resource management goals and objectives; establish and implement initial resource PM&E measures designed to meet those

¹⁵ See Appendix E, Level 3 Report, Figures 2-2a, 2-2b, 2-3a, 2-3b, 2-4a, 2-4b, pp. 2-14 to 2-19. Both alternatives 3 and 4a assume the presence of a thermal curtain at Lake Almanor; Alternative 3 also includes a low-level release of 250 cfs from Canyon Dam. A thermal curtain would further reduce the temperature at Belden Reservoir and thus make the additional 250 cfs from Canyon Dam relatively more effective in its cooling effect. We thus believe that 1°C maximum differential between alternatives 3 and 4a provides a bookend benefit for 250 cfs release on a stand-alone basis; the actual benefit would likely be much less.

¹⁶ There is so little definition of adaptive management in the Preliminary Staff Recommendation that we question whether it is anything more than a vehicle for delaying difficult decisions.

management goals and objectives; monitor the response of target organisms and resources to the PM&E measures and determine if the management goals and objectives are being met; implement modifications to the PM&E measures within pre-established limits in an attempt to meet management goals and objectives that are not being met by the current PM&E measures; and then continue a defined program of monitoring and readjustment of PM&E measures within pre-established limits over time to meet the established goals and objectives.¹⁷

As CSPA, AW, Plumas County, Board staff, and other ERC participants and Forest Service advisors have learned over the thirteen years, adaptive management does not defer defining a desired outcome until “we see it.” The Certification must start with actions that the Board determines, based on substantial evidence, will protect cold water beneficial uses. Any consideration of adaptive management must start from these actions.

IV. The DEIR does not present a reasonable range of alternatives.

A. The alternatives are inadequately defined and are not sufficiently distinct.

Chapter 4 of the DEIR presents the alternatives that the document analyzes. Chapter 4 starts by describing “the Proposed UNFFR Project” as shown below:

The Proposed UNFFR Project, as outlined in Section 3.5 of this EIR, consists of the elements of PG&E’s application to FERC and the Project 2105 Relicensing Settlement Agreement (2004 Settlement Agreement), Section 18 Conditions, Section 4(e) Conditions, and FERC’s Staff Alternative.¹⁸

We believe this description is misleading and inaccurate. The Proposed Project under CEQA is the issuance of a Water Quality Certification for the relicensing of the Upper North Fork Feather Project. As such, the Proposed Project must demonstrate that it conforms to the requirements of the Clean Water Act under whose authority Certification is issued. Part of what allows the DEIR as written to avoid description of how the Preliminary Staff Recommendation would (or would not) comply with the Clean Water Act is this misidentification of the Proposed Project. The whole reason for the DEIR and the overriding objective of the Proposed Project is to incorporate substantive addition to the proposed federal action. FERC punted water quality (temperature) to the State Board; the Board can’t analyze only the proposed federal action as the Proposed Project because the proposed federal action does not address temperature, and thus does not conform to the Basin Plan because it does not protect cold water beneficial uses. Not only is there no *preferred project* in the DEIR, there is no Proposed Project. The PG&E Proposed Project, as modified by FERC and by the Settlement Agreement, is more appropriately considered a No Project Alternative (whereby the Board would waive its Certification authority) under CEQA.

¹⁷ *Rationale Report for the Rock Creek – Cresta Relicensing Settlement Agreement*, p. 29. [“PM&E” measures means “protection, mitigation and enhancement” measures.]

¹⁸ DEIR, p. 4-4.

The DEIR per se (as opposed to the Notice of Availability) analyzes two additional alternatives. These “State Water Board Proposed Project Alternatives” are described in Chapter 4 as: “Alternative 1: Thermal Curtains at Prattville Intake and Caribou Intakes with Modifications to Canyon Dam Outlet Structure and Associated Flows to the Seneca and Belden Reaches”¹⁹ and “Alternative 2: Thermal Curtains at Prattville Intake and Caribou Intakes and Associated Flows to the Seneca and Belden Reaches.”²⁰ Functionally, Alternative 1 would require up to 250 cfs release into the Seneca reach, while Alternative 2 would require release only of “alternative minimum flows” into the Seneca reach.

Thus, in the DEIR, we are presented with an “alternative” that does not comply with the Basin Plan and two alternatives whose central features are thermal curtains at Lake Almanor and at Butt Valley Reservoir. Thermal curtains are vehemently opposed by Plumas County and its residents, and by many other people who regularly spend time in the Lake Almanor area. Thermal curtains are opposed by AW and CSPA. They are opposed by PG&E. In fact, there is no known support at all among any stakeholders for thermal curtains as the solution to improving water temperatures in the NF Feather River downstream of Belden Reservoir, largely because thermal curtains are believed likely to negatively impact the Lake Almanor trout fishery.

In addition, a thermal curtain in Lake Almanor would likely create unmitigated and inmitigable conditions in Lake Almanor that would likely in turn violate the Basin Plan in its impacts to the cold water fishery in the lake.

To the degree that the Preliminary Staff Recommendation could be considered another alternative under CEQA once it is analyzed, it is simply the difference between the other two State Board proposed alternatives. It chooses the least controversial element, but would not comply with the Basin Plan.

In *Foothill Conservancy v. East Bay Municipal Utilities District*, Sacramento Superior Court Case No. 34-2010-80000491 (2011), the Court invalidated an EIR, finding:

... While the Court has no objection to the conceptual range of portfolios described in the EIR, the Court finds there is insufficient variation in the composition of those portfolios to permit informed decisionmaking.

An EIR is required to ensure that all reasonable alternatives to a proposed project are thoroughly assessed by the responsible official. Therefore, an EIR must describe a range of reasonable alternatives to the project or to the location of the project, which could feasibly attain the basic objectives of the project and evaluate the comparative merits of the alternatives. (*Friends of the Eel River v Sonoma County Water Agency* (2003) 108 Cal App 4th 859, 872.) The discussion must focus on alternatives capable of eliminating any significant adverse environmental effects or reducing them to a level of

¹⁹ DEIR, p. 4-5.

²⁰ DEIR, p. 4-8.

insignificance, even if these alternatives would impede to some degree the attainment of project objectives, or would be more costly.²¹

We believe the case is directly on point here. The DEIR neither achieves the “basic objectives” of the project nor eliminates significant adverse environmental impacts. Because the DEIR lacks a reasonable range of effective alternatives, it sets up the outcome for failure. It is also inadequate under CEQA.

B. The DEIR improperly eliminates the release of 600 cfs from Canyon Dam in July and August as an “infeasible” alternative.

Under CEQA,

The issue of feasibility arises at two different junctures: (1) in the assessment of alternatives in the EIR and (2) during the agency’s later consideration of whether to approve the project. (*See Mira Mar Mobile Community v. City of Oceanside (2004) 119 Cal.App.4th 477, 489, 14 Cal.Rptr.3d 308 (Mira Mar)*.) But “differing factors come into play at each stage.” (1 Kostka & Zischke, Practice Under the Cal. Environmental Quality Act (Cont.Ed.Bar 2d ed.2009) § 15.9, p. 740.) For the first phase—inclusion in the EIR—the standard is whether the alternative is *potentially* feasible. (*Mira Mar, at p. 489, 14 Cal.Rptr.3d 308; Guidelines, § 15126.6, subd. (a)*.) By contrast, at the second phase—the final decision on project approval—the decision-making body evaluates whether the alternatives are *actually* feasible. (*California Native Plant Society v. City of Santa Cruz 177 Cal.App.4th 957(2009)*).

“If the agency finds certain alternatives to be infeasible, its analysis must explain in meaningful detail the reasons and facts supporting that conclusion. The analysis must be sufficiently specific to permit informed decision-making and public participation, but the requirement should not be construed unreasonably to defeat projects easily.” (*Marin Water, supra, 235 Cal.App.3d at p. 1664, 1 Cal.Rptr.2d 767*.) The infeasibility findings must be supported by substantial evidence. (§ 21081.5; Guidelines, §15091, subd. (b).) (*Id.*).

The Level 3 Report included an alternative (4c) that proposed to require a July and August summer release of 600 cfs from Lake Almanor’s Canyon Dam into the Seneca reach, without requiring a thermal curtain. This alternative also included a requirement to preferentially use Caribou I Powerhouse instead of Caribou II Powerhouse. The Level 3 Report also included an alternative (4d) that proposed to require a July and August summer release of 600 cfs from Lake Almanor’s Canyon Dam into the Seneca reach and installation of a thermal curtain at the Caribou intakes in Butt Valley Reservoir. These alternatives as modeled performed very favorably in comparison to a thermal curtain at the Prattville intake at Lake Almanor.

The DEIR eliminated from further consideration any alternative that would have required preferential use of Caribou I Powerhouse over Caribou II, on the grounds that such preference

²¹ *Foothill Conservancy v. East Bay Municipal Utilities District*, Sacramento Superior Court Case No. 34-2010-80000491 (2011), p. 30.

“would likely eliminate the UNFFR Project’s ability to serve on-peak energy loads.”²² While we strongly suspect that this conclusion was conditioned by the precise (or imprecise) way in which the language was interpreted, our experience over many years in the Rock Creek – Cresta ERC suggests that that any thermal benefit to such preferential operations lasts about one week until the small cold water pool in Butt Valley Reservoir near the Caribou I intake is exhausted. The alternative to preferentially operate Caribou I Powerhouse over Caribou II Powerhouse can more reasonably be eliminated from consideration for simple lack of thermal benefit.

In comparing alternatives 4c and 4d in the modeling output presented in the Level 3 Report, there is virtually no relative benefit of a Butt Valley Reservoir thermal curtain over preferential use of Caribou I. The reason is the same: there is no cold water in Butt Valley Reservoir near the Caribou intakes after the initial exhaustion of the tiny cold water pool at the beginning of each summer. The Butt Valley thermal curtain can thus also be eliminated from consideration for lack of thermal benefit.

This leaves the element common to 4c and 4d as the effective element in reducing downstream water temperatures: release of 600 cfs from the Canyon Dam low-level outlet in July and August. While modeling of 4c and 4d provides a mostly accurate understanding of the benefit of the release of 600 cfs from the Canyon Dam low-level outlet in July and August, this measure should be modeled on a stand-alone basis.

With no supporting evidence, the DEIR eliminated from further consideration the alternative that would require release of 600 cfs in July and August. Together with its conclusion about preferential use of Caribou I Powerhouse, Chapter 4 states that a summer release from Canyon Dam of greater than 250 cfs “would likely eliminate the UNFFR Project’s ability to serve on-peak energy loads.”²³

The statement in DEIR Chapter 4 dismissing the 600 cfs release from Canyon Dam as infeasible refers the reader to Appendix J. Appendix J simply announces the conclusion that this alternative was not “feasible” because it would not allow PG&E to use the project to provide ancillary services such as load following and grid regulation. Appendix J describes:

The increased turbine bypass flows at Canyon Dam reduces the amount of energy available to produce power. So long as the remaining water can be stored and released at the most valuable time, the ability to provide ancillary services is not impacted. A/S provision requires little additional energy as it is the *option* to generate, not actual power production that is the embodied value. However, diverting 600 cfs in *Alternative 4d* does reduce the available storable or “pondage” water so as to impair the ability of the powerhouses to provide ancillary services. This means that the 247 MW of controllable project capacity would have to be replaced with alternative generation. Given the load-following and reserve characteristics of Caribou #1 and #2, this would almost certainly have to be a CT. Based on the cost of constructing CTs derived by the CEC from a survey of California power plants supplemented by estimates from other agencies, building a new replacement plants would cost \$208 to \$369 million (CEC 2010). Energy

²² DEIR, p. 4-3.

²³ *Id.*

production could be replaced with the system incremental resources available from existing resources on the power grid.²⁴

There is no discussion or series of calculations shown to support the conclusion that this alternative must be deemed infeasible. The DEIR does not show how much water that modeling assumed was required to provide reliable ancillary services. The DEIR does not disclose the frequency with which modeling assumed that the needed amount of water would run short. The DEIR not disclose how much generation at Caribou I and II modeling assumed over and above the generation pertaining to ancillary services, or how much modeling assumed that “pondage” water would be reduced by this non-ancillary-service generation. The DEIR does not distinguish, in deeming this alternative infeasible, between lost opportunity from preferential use of Caribou 1 and from releases from Canyon Dam in Alternative 4c. The DEIR does not evaluate varying the releases from Canyon Dam in order to meet temperature requirements based on real-time monitoring. The DEIR does not evaluate somewhat lesser releases from Canyon such as 500 cfs, or what benefit such releases might have. The DEIR is not even clear whether the time period for temperature control releases from Canyon Dam evaluated in the Level 3 Report (July and August) is the same time period that was evaluated for the DEIR in finding the alternative infeasible; the 250 cfs release contemplated in the preliminary staff recommendation would be for a longer time period each year, from June 15 - September 15.

Staff needs to perform the modeling and related calculations and disclose the results. If staff continues to maintain the position that 600 cfs is not feasible, staff needs to clearly, with full documentation, explain why, addressing the issues outlined immediately above. Most particularly, staff must justify this statement: “This means that the 247 MW of controllable project capacity would have to be replaced with alternative generation.” The public and decision makers deserve to see a systematic and clear delineation of all the assumptions behind this conclusion. As stated, elimination of this alternative from consideration leaves the DEIR without a meaningful range of alternatives under CEQA.

In addition, Staff should also add an alternative that evaluates intermediate flow releases from Canyon Dam, between 250 cfs and 600 cfs, and should evaluate the opportunity to adjust flows to respond in real time to water temperatures in the Rock Creek and/or Cresta reaches. One commenter at the February 11, 2015 outreach meeting held in Chester recommended a phased-in approach to temperature improvements in the NF Feather River downstream of Belden Reservoir, which would begin with a 250 cfs release and consider increased flow releases in the future. If considered by staff, this approach must address the fact that rehabilitation of the Canyon Dam outlet works will be necessary for any significant flow release from the low-level outlet. This will require major construction activities, and there would likely be significant efficiency in repairing both of the low-level outlet gates even though it is possible that the operability of only one low-level gate would be sufficient for a 250 cfs release.

²⁴ DEIR Appendix J, p. 32.

V. The DEIR makes unwarranted and unsupported assumptions about Project infrastructure.

The DEIR (Level 3 Report) inappropriately identifies repair of the Canyon Dam low-level outlet works as a capital cost associated with Certification.²⁵ This repair should rather be viewed as a long-needed correction of deferred maintenance, and should not be assigned to the cost associated with Certification per se. Two operational low-level outlet gates at Canyon Dam are needed to ensure the safe and reliable operation of the entire NF Feather hydropower system. The importance of this need was foreshadowed in the summer of 2014, when Butt Valley Powerhouse could not be operated from August 10 through August 23. Water withdrawn from Butt Valley Reservoir threatened to become increasingly warmer as water in Butt Valley could not be replenished from Lake Almanor. A potential thermal catastrophe was averted when Butt Valley Powerhouse was returned to service. Fully operational low-level outlet works at Canyon Dam are necessary to create operational redundancy not only for Butt Valley Powerhouse, but also in case the Caribou units were to go down simultaneously (in the event fire or landslide damaged the Caribou penstocks, for instance). In addition, even for a low-level release of 250 or 300 cfs from Canyon Dam, there should be redundancy of outlet works that enables release of summer flows through the second gate in the event one gate becomes inoperable. In the limiting case, PG&E should not have to decide between flooding Chester and releasing warm water into the North Fork Feather from the high level outlet in the event that operations through Butt Valley Reservoir become impossible over the course of a summer.

The DEIR leaps to the conclusion the PG&E would have to construct a gas-fired power plant to backfill the reliability of the project if a 600 cfs summer release from Canyon Dam were required. However, in recent years, the generation from the Project has varied widely, due not only to hydrology but to a series of outages and repairs that the project has undergone. In 2010, annual generation for the Upper North Fork Feather Project was 696,659,700 kilowatt hours (KWH); in 2011 it was 1,188,147,000 KWH; in 2012 it was 732,109,200 KWH; in 2013 it was 1,156,598,000 KWH.²⁶ These variations in generation do not clearly follow water year types. Nonetheless, in spite of such wide swings, PG&E did not announce that it was compelled to construct a new gas-fired power plant to replace lost generation.

VI. The DEIR fails to evaluate Project cumulative effects on cold water habitat for trout in Lake Almanor, and fails to propose reasonable mitigation for these effects.

The DEIR shows that Lake Almanor has limited cold water habitat under current conditions (“baseline” conditions as described in DEIR Appendix E1, p. 1) and under the proposed action evaluated by FERC in its EIS (“present day conditions” as described in DEIR Appendix E1, p. 2).²⁷ The DEIR describes two key components of Lake Almanor’s cold water habitat: water temperature and dissolved oxygen. Several commenters during the scoping meeting in 2005, as shown in the meeting transcript which is attached to the DEIR as Appendix

²⁵ See DEIR Appendix E (Level 3 Report), pp. 4-13 to 4-19 and Table 4-9 (p. 4-33).

²⁶ Data compiled by California Hydropower Reform Coalition from annual generation reports filed by PG&E with FERC.

²⁷ See DEIR Appendix E, Level 3 Report, Table 3-10b. This table shows zero suitable cold water habitat in a Critically Dry year for the weeks of August 9 and 17 using a standard of 20°C.

B, raised the issue of inadequate dissolved oxygen in Lake Almanor.²⁸ Part of the limitation in cold water habitat stems not only from lack of cold water, but also from the fact that existing cold water has limited or no dissolved oxygen and thus is not suitable as cold water fish habitat. Most of this anoxic cold water is near Canyon Dam. Oxygenation of this cold water near Canyon Dam represents an opportunity to enhance the Lake Almanor's existing trout fishery.

The opportunity presented by oxygenation is not considered or evaluated in the DEIR. Instead, added trout planting in Lake Almanor is suggested as mitigation for when summer operations in Critically Dry years reduce available cold water habitat because water with sufficient dissolved oxygen becomes so warm that it is stressful or lethal to trout.

Oxygenation of reservoirs or of portions of reservoirs is a proven technology whose use has substantially increased in the last twenty years. The East Bay Municipal Utilities District uses two different forms of oxygenation technology: the Speece Cone in Camanche Reservoir in San Joaquin County, and the diffuse oxygenation system in Upper San Leandro Reservoir in Alameda County. The oxygenation infrastructure at Camanche Reservoir was originally installed to oxygenate water released from the reservoir into the Mokelumne River and the Mokelumne River Fish Hatchery downstream. However, an unexpected ancillary benefit has been the substantial improvement of dissolved oxygen levels in the Camanche Reservoir for several miles upstream of Camanche Dam. Initial cost of the extremely simple Camanche infrastructure was \$1.4 Million, and annual cost of oxygen and maintenance is about \$120,000.²⁹

Installation of similar infrastructure near Canyon Dam would create an entire new area of summer trout habitat. Installation near Prattville would expand existing habitat, identified in the Level 3 Report as going almost to zero in August under existing conditions in Critically Dry years, and maintain habitat viability in deeper (and thus colder) water.

Lake Almanor's trout fishery will be subject to increasing water temperatures under climate change; the status quo will not protect it. There is a need to improve reliable habitat for trout in Lake Almanor. It is not possible to improve the thermal profiling of the lake. What is possible is to oxygenate the cold water that is present and will continue to be present in the lake. In spite of attention called to this issue in scoping for the Water Quality Certification in 2005, this issue is not addressed in the EIR.

The State Board should expand the geographic application of its Clean Water Act authority for the Certification of the Upper North Fork Feather Project and protect the Lake Almanor fishery at the same time. The DEIR improperly presents protecting the river and protecting the lake as conflicting interests under Certification. The State Board has the opportunity and in fact the responsibility to protect both of these unique California resources.

²⁸ See DEIR, Appendix B, transcript of scoping meeting held in Chester in 2005, comments of Gary Story, p. 33; comments of Aaron Seandel pp. 60-62. Mr. Seandel, who monitored water quality in Lake Almanor for many years, made similar and more extensive comments relating to dissolved oxygen at the February 11, 2015 meeting held by the State Board in Chester to take comments on the DEIR.

²⁹ CSPA personal communication with EBMUD staff, December 12, 2014.

VII. The DEIR correctly considers that increased flow at the head of the regulated North Fork Feather River system is an appropriate mechanism to address water temperature in the entire system. However, the recommended “alternative minimum flows” for particular reaches in the Upper North Fork Feather Project and the recommended elimination of pulse flows overreach into resolved issues under Settlement.

The Project 2105 Settlement Agreement clearly states the issues that were resolved within that settlement, and those issues that were left unresolved. Resolved issues included:

- Flows for physical habitat for aquatic species,
- Flows for whitewater recreation
- Geomorphic and channel maintenance flows,
- Lake level agreement designed to protect recreation and aesthetics at Lake Almanor.

At the top of the list of unresolved issues is water temperature. Section 2.3 of the Project 2105 Settlement Agreement, Table 2, #2 states:

b) Water Temperature: Feasibility studies are currently underway to determine Project 2105 controllable factors associated with attainment and protection of cold freshwater habitat, a designated Beneficial Use of the North Fork Feather River. All Parties await additional information in early 2004 from on-going modeling efforts related to the potential Prattville Intake Modifications, re-operation, or other structural changes (Canyon Dam Intake structure modification, modification to Caribou 2, etc.) to inform PM&E development and agreement on appropriate water temperature conditions. CSPA has unresolved issues with temperature impacts on aquatic resources resulting from the continued operation of the Hamilton Branch and Project 2105 features including the Prattville outlet, Butt Valley Powerhouse, Butt Valley Reservoir, the Caribou 2 Powerhouse and Belden Reservoir in the Project vicinity and in downstream reaches of the North Fork Feather River to Oroville Reservoir.³⁰

It was always our understanding that water temperature improvements would be achieved by making changes at the head of the system, i.e. increased flows from Canyon Dam or infrastructure changes at Prattville. This is consistent with the understanding reached during the Rock Creek – Cresta settlement negotiations, where participants recognized that any significant improvements in water temperature would have to occur at Lake Almanor.

In proposing “alternative minimum flows,” staff implicitly recognized the challenge of adjusting flows in the Belden and Seneca reach while attempting to keep the other components of the Settlement agreement intact. The DEIR states:

In an effort to mitigate impacts to water supply on an annual basis, State Water Board staff excluded the provision in the 2004 Settlement Agreement that would have required

³⁰ Project 2105 Settlement Agreement, Section 2.3.

pulse flows in normal and wet water years. This adjustment to the 2004 Settlement Agreement flow schedules would be water neutral.³¹

While Staff's attempt to not infringe on water available for generation and/or to limit water needed to meet the lake level agreement is laudable, the decision to make the Solomon's choice of eliminating channel maintenance pulse flows is improper. The DEIR does not consider the Project impacts that the channel maintenance pulse flows were designed to mitigate.

Channel maintenance pulse flows were included in the Settlement and in the USFS 4(e) conditions because of the particularly serious need to maintain the channel in both the Belden and Seneca reaches. FERC agreed with the need for channel maintenance pulse flows in the FEIS:

We recommend this modification to ensure that periodic flows of the magnitude necessary to flush fine substrates from spawning gravels, redistribute small gravels, and activate floodplain habitat would occur with enough frequency to improve conditions for the aquatic biota in the bypassed reaches, especially during periods of drought.³²

The Upper North Fork Feather Project eliminates virtually all high flow events in the Seneca and Belden reaches. The channel in both reaches has become seriously encroached with vegetation. The recreation flow study performed during relicensing repeatedly reported that channel vegetation was a serious concern for the boaters who participated in that study.³³

Eliminating geomorphic pulse flows would also eliminate whitewater boating opportunities that were part of the package agreed to in Settlement.³⁴ As Appendix 1 to these comments shows, these flows have economic as well as recreational value. The recreation releases that have occurred since 2002 as a result of the Rock Creek – Cresta Settlement Agreement have gained regional and national significance. The popularity of the NF Feather River as a whitewater recreation destination is a clear indication of the value of this river as a recreation resource.

In addition, we frankly do not understand the basis for the “alternative minimum flows” for the Seneca reach, because even at their maximum high values the water temperatures in the Seneca reach will always be substantially less throughout the reach than the mean daily 20°C benchmark adopted by FERC and also adopted in the DEIR.³⁵

The “alternative minimum flows” for the Belden reach would not be expected to benefit reaches downstream. A superior approach, and one that would keep the Settlement Agreement flows intact, would be to assure that water temperature in Belden Reservoir was sufficiently cold to cool the reach with the Settlement Agreement flows; this would benefit not only the Belden

³¹ DEIR pp. 4-10.

³² FERC FEIS p. 5-2; USFS 4e condition 25 part 4.

³³ *Flow Assessment for Recreation Upper North Fork Feather River Hydroelectric Project* in Upper North Fork Feather Project, FERC No. 2105, *Application for New License*, p. E5-1021, eLibrary 20021029-0172.

³⁴ Project 2105 Settlement Agreement, p.20.

³⁵ See Appendix E, Level 3 Report, Figures 2-5a (p. 2-20) and 2-5b (p. 2-21).

reach, but also reaches downstream. The way to achieve this is to provide river-cooling flows in the Seneca reach that provide sufficient cold water in Belden Reservoir to cool both the Belden Reach and the Rock Creek and Cresta reaches downstream.

In sum, CSPA and AW believe that there is a clear distinction between flows that are intended to improve temperature for the entire North Fork Feather River and changes in flows that are intended to cool any one specific reach (“the alternative minimum flows”). While the first case is clearly outlined as an unresolved issue in the Settlement, the second has the potential to unravel many of the flow conditions of the Settlement. The negotiations that created the Project 2105 Settlement Agreement required careful consideration of a wide array of interests. We recommend that the State Board make every effort to respect the balancing embedded in the Project 2105 Settlement Agreement to the degree that this is compatible with the Basin Plan and with the Board’s mandate to protect cold water habitat and associated beneficial uses.

VIII. Conclusion

Staff should perform the modeling requested in these comments forthwith, and should release the modeling results to the public for immediate review. This modeling must be analyzed before details of additional alternatives for a recirculated DEIR or a supplement to the DEIR can be fully developed.

Staff should recirculate a revised DEIR or issue a supplement. A recirculated DEIR or a supplement must:

- Describe the impairment of the NF Feather River’s cold water beneficial uses by the Upper North Fork Feather River Project and by PG&E’s associated Rock Creek – Cresta and Poe Projects.
- Describe the impacts of this impairment to the NF Feather River’s recreational fishery and associated economic impacts.
- Define a Proposed Project that will comply with the Clean Water Act.
- Clearly define the Proposed Project.
- Clearly define an adaptive management program if any is proposed, consistent with the principles from the Rock Creek – Cresta adaptive management program as quoted above.
- Define a reasonable range of alternatives. We recommend that these be:
 1. The “Present Day” alternative;
 2. A stand-alone thermal curtain at Lake Almanor (we oppose this alternative, but it must be evaluated given its part in twenty-five years of regulatory proceedings);
 3. A stand-alone 250 cfs release from Canyon Dam from June 15 through September 15;
 4. A stand-alone 600 cfs release from Canyon Dam from July 1 through August 31;
 5. A stand-alone optimized release from Canyon Dam from July 1 through August 31 to be managed real-time to meet a determined temperature target. The water budget for this alternative must be based on modeling

results that show the maximum amount of water available from the Project that allows meeting the Lake Level requirements in the Project 2105 Settlement Agreement and that also allows PG&E reliable operation of the Project for ancillary services; and

6. An oxygenation alternative for the protection of cold water beneficial uses in Lake Almanor. This alternative should be analyzed as a complement to suggested alternatives 3-5 above.
 - Eliminate from consideration the preferential use of Caribou I and a Butt Valley thermal curtain on the grounds that modeling shows they would be ineffective in protecting cold water beneficial uses.
 - Model alternatives 1-5 above on a stand-alone basis, and transparently provide modeling assumptions, inputs, and results.
 - Transparently provide the stand-alone costs of each alternative.
 - Analyze remediation of both of the low level gates at Canyon Dam as necessary infrastructure maintenance required for the safe operation of the Project and for protection of cold water beneficial uses under prolonged outage scenarios for Prattville, Butt Valley and Caribou infrastructure.
 - Eliminate unnecessary inconsistency with the Project 2105 Settlement Agreement by removing from the Proposed Project both the “alternative minimum flows” and the proposed elimination of required pulse flows and associated whitewater boating opportunities.

For decades prior to the construction of the Rock Creek – Cresta Project, PG&E pulsed hundreds of cfs down the NF Feather downstream of Caribou to suit the needs of hydropower. We are convinced that without substantially constraining its system, PG&E can find a way to run up to 600 cfs down one reach (Seneca) for two months a year to restore the aquatic habitat that its three power projects have substantially diminished.

The DEIR as written does not provide us, other stakeholders or decision makers the tools to figure out how to help PG&E determine how to protect NF Feather River cold water resources and still operate its system for the hydropower benefits for which it was constructed.

In 2011, CSPA and AW wrote to FERC following the widespread mortality of foothill yellow-legged frogs following an abrupt drop in flow in the Poe reach of the NF Feather River.³⁶ PG&E at first protested that there was nothing it could do to address such abrupt drops. However, after several years of discussion in the Rock Creek – Cresta ERC, and associated investigation and development by PG&E, PG&E has developed a solution for similar issues on the Cresta reach that will likely not be perfect but that will make a substantial improvement.

This provides an important lesson to all interested persons. What appears infeasible at this moment, particularly to a limited set of stakeholders, may not be as unresolvable as it may appear. There is a long history of solving problems in this watershed. It begins with making sure all the relevant information is available to everyone. Such availability comports with the

³⁶ CSPA and AW, *Comments, Mortality of Foothill Yellow-Legged Frogs on Poe Project*, FERC eLibrary 20110729-5200.

fundamental purpose of CEQA that an EIR be sufficient to allow informed decision making. “[An EIR] must consider a reasonable range of potentially feasible alternatives that will foster informed decisionmaking and public participation.” (CEQA Guidelines, §15126.6 subd. (a).)

CSPA and AW believe that an answer can be found on the NF Feather River that substantially improves both the river fishery and the lake fishery, while allowing PG&E to operate its project for hydropower and specifically for ancillary services. We look forward to a recirculated DEIR or a supplement that provides the tools to advance that effort.

Thank you for the opportunity to comment on the *Draft Environmental Impact Report for the Water Quality Certification of Pacific Gas & Electric Company’s Upper North Fork Feather Hydroelectric Project, Federal Energy Regulatory Commission Project No. 2105.*

Respectfully submitted,



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Appendix 1

Comments on the DEIR for the Upper North Fork Feather River Hydroelectric Project: Economic Issues Related to Coldwater Angling and Whitewater Boating

Sarah Reich and Ed MacMullan

ECONorthwest

March 25, 2015

[Filed as separate pdf file]

Appendix 2:
The Effect on the Fishery
of the North Fork of the Feather River, California,
of Proposed Hydro-Electric Developments
with Special Reference to
Cresta and Rock Creek Projects

J.H. Wales and H.A. Hansen

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[Filed as separate pdf file]

**UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION**

**Upper North Fork Feather
Hydroelectric Project
Pacific Gas and Electric**

FERC Project No. 2105

CERTIFICATE OF SERVICE

Pursuant to Rule 2010 of the Commission's Rules of Practice and Procedure, I hereby certify that I have this day caused the foregoing **California Sportfishing Protection Alliance and American Whitewater's Comments on the Draft Environmental Impact Report for the Water Quality Certification of PG&E's Upper North Fork Feather Hydroelectric Project (P-2105)** to be served upon each person designated on the official service list compiled by the Secretary in this proceeding.

Dated this 27th day of March 2015.



Megan Hooker
American Whitewater