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STATE WATER RESOURCES
CONTROL BOARD

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DIV OF WATER RIGHTS
SACRAMENTO

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Subject:

DEIR for Cold Water Withdrawal and Prattville Intake Modifications

The Thermal Curtains and the withdrawal of cold, bottom water, from the area of the Canyon Dam Intake tower is a twenty-year old solution that has been in search of a problem for that entire time.

The concept of withdrawing cold water from Lake Almanor via the "Prattville Intake Modification" apparently was inserted into the relicense settlement for Rock Creek Cresta, FERC Project 1962, at the insistence of a State employee. This was done without any historical or empirical evidence that the water in the stretch of the river around Rock Creek Cresta is now warmer than pre-power plant temperatures.

The movement has continued over twenty years, in the absence of supporting evidence that withdrawing cold water from Lake Almanor was the most cost effective way to cool water downstream, or that even historically the water had been cooler before the dams were installed.

The present EIR for the FERC 2105 relicense is inadequate for many reasons and some of these are following:

Unreasonable cost and lack of cost effectiveness analysis:

The estimated cost for the alternatives, especially Alternative 3X, is unjustifiable at approximately \$1.3 billion over the life of the license (using the EIR estimates and an inflation factor 2.5%). The only benefit cited is to make the cold-water fish "thrive" better. Fifty years of California Game Warden observations have never seen a "temperature kill-off" of trout in the river.

THIS PROPOSED EXPENDITURE WOULD BE IRRESPONSIBLE AND RECKLESS TO REQUIRE AS A CONDITION OF THE LICENSE AND IS CONTRARY TO FERC POLICY AND THE INTERESTS OF THE PG&E RATEPAYER.

Lack of adequate documentation of historical temperatures underlying the goals of the proposed expenditures:

No research was done during the Rock Creek Cresta License Project 1962 and UNFFR Project 2105 relicensing to determine these hydropower projects' real impact on historical temperatures, despite having over 20 years to do so. Rather, ignoring repeated advice from experts that the theories of warming causes and impact on cold water species couldn't be supported, SWRCB proceeded to list the river as "temperature impaired" without serious research and with only the most flimsy of evidence; the only historical evidence provided was two photographs without verification of origin or location and some anecdotal stories about record catches. **Their own Redding office of SWRCB refuted the line evidence in the listing.**

Additionally, despite having a representative sitting at most of the Collaborative meetings, the SWRCB provided no notification to many of the participants of the Collaborative so that they could attend and contest the listing.

A large body of historical information was ignored, all of which offered opportunity to make accurate findings before the listing. Two of these factors were:

1). That Big Meadows, prior to flooding from the dam forming Lake Almanor, contained not just a series of rivers but rivers with ponds in many locations around the 25,000+ acres. These ponds, as evidenced by photos available in the Eastman Collection at University of California Davis, were large and numerous and served the same purpose, albeit naturally, as the Thermalito Afterbay near Oroville, CA – to warm the water prior to downstream flow.

2). Despite ample measurements on the river, no research was done regarding the positive impact of the deep water held behind the several dams on the river below Caribou. Nor was evaluation done related to the cooling effect of miles of tunnels and penstocks, which by direct observation, maintain cooler temperatures than shallow water flowing over river stones naturally. As noted in some observations in the EIR, the temperature at the bottom of these dams is considerably lower than the "impaired" stretches. Yet no evaluation was done to determine the positive impact of release of this water from either source.

Based on my years of attending the many meetings of the Collaborative and the Plumas County 2105 Committee, of which I was an official member, it became obvious that the sole goal of the SWRCB representative and her allies attending the river temperature discussions was to continue the goal of her former colleague to withdraw cold water from Lake Almanor.

The cooling and improvement of these stretches has consistently been considered more effective if repairing riparian habitats was undertaken, not cold-water withdrawals from Lake Almanor:

Evidence contrary to the SWRCB campaign to withdraw cold water from Lake Almanor is listed below:

1). Excerpts from the Federal Energy Regulatory Commission "Notice of Availability of Draft Environmental Assessment, Project No. 1962, November 1, 1996.

"Therefore, CDFG and PG&E have agreed to amend the Agreement by deleting the requirement to modify the Prattville intake structure and to monitor downstream water temperatures. Instead, they would implement as yet unspecified fishery enhancement measures at a total cost of about \$1.5 million (letter from Jeffrey D. Butler, PG&E, San Francisco, California, May 30, 1996). In its recommended changes to the Agreement, FS proposes that PG&E participate in planning and implementing riparian habitat improvement projects in the NFFR watershed in lieu of modifying the Prattville intake (FS, 1996). The expected temperature reduction below the project dams resulting from modification of the Prattville intake would be small (about 1 degree C in August [PG&E, 1986b]) and water temperatures would still remain near the upper temperature limit preferred by trout (about 19 degree C). In fact, even with modification of the Caribou No. 2 intake, the net temperature reduction would be only 1.3 to 1.5 degrees C (PG&E, 1986b). We therefore agree that fishery enhancement measures would provide greater benefits than control structures at the Prattville and Caribou No. 2 intakes.

In addition, some of PG&E's funds could be allocated to NFFR improvements recommended by FS. Therefore, we recommend that PG&E, in consultation with the agencies, submit a plan for Commission approval and set aside \$1.5 million to implement measures for the long-term protection and enhancement of NFFR fishery resources in lieu of installing a temperature control structure at the Prattville intake and monitoring downstream water temperatures

2). Excerpts from the State Regional Water Quality Board, Redding Office, letter of December 1, 2005 signed by James C. Pedri, P.E. Assistant Executive Officer to Mr. Joe Karkoski, TMDL Unit Regional Water Quality Control Board, immediately prior to listing the NFFR as temperature impaired:

"...Given the reality that 303(d) listing and subsequent TMDL activity is a principal driving force for so much of our agency work and priorities, it is important that initial

listings are well founded in order to make the most efficient use of our limited time and \$

.....In conclusion, we do not support 303(d) temperature listing for the NF Feather River based on information we have (including information referenced in the two page listing summary). We request that you include this letter with your comments to SWRCB on the current proposed listings. If you have questions or comments, please contact Dennis R. Heiman of my staff at (530) 224-4851, or at the letterhead address noted above."

3). Excerpts from the Federal Energy Regulatory Commission EIR for the 2105 project, page xxxiii:

"PG&E evaluated numerous potential measures to reduce water temperatures in the Belden reach and the lower NFFR reaches to make these reaches more suitable for coldwater fish. At this time, PG&E has not proposed implementing any of the measures it has evaluated. The implementation of some of these measures would require modifying UNFFR Project facilities and/or operations. Therefore, we evaluate these measures in this final EIS. We determined that the use of thermal curtains in Lake Almanor and/or Butt Valley reservoir would reduce NFFR temperatures downstream of the Caribou powerhouses; however, we do not recommend it given the adverse effects that these measures would have on the lakes' environmental, cultural, and recreational resources (e.g., coldwater fishery of Lake Almanor, the existing trophy rainbow and brown trout fishery of Butt Valley reservoir, potential disturbance of Native American burial grounds, boating safety, and viewsheds) and its high cost. While we do not recommend modifying the Prattville intake to provide cooler water to downstream reaches, PG&E's proposed, and our recommended, minimum instream flows generally would reduce water temperatures in July and August by about 0.5 to 2.0°C in the Belden reach, and also, albeit to a lesser degree, in the lower NFFR bypassed reaches." for coldwater fish."

(Underlining and italics added for emphasis, otherwise electronically copied directly from the documents.)

In conclusion, the continuous input by responsible parties and agencies has been against taking significant amounts of cold water from Lake Almanor and has as consistently in favor of downstream improvements to habitat. Unfortunately, this expertise has been ignored in favor of special interests that long ago commandeered the EIR to implement the withdrawal of cold water from Lake Almanor.

Effects on the cold water fishery in Lake Almanor and Butt Lake:

The withdrawal of cold water from Lake Almanor is to provide an environment in the downstream reaches of the NFFR so the cold water species will "thrive", not prevent death, at the cost of destroying cold water fish during every year of cold water withdrawal at the two lakes.

The cold-water withdrawal will severely reduce the cold-water habitat in Lake Almanor:

The various studies on the fishery impact at Lake Almanor and Butt Lakes differ in the totality of estimates of impact, but what is clear is that withdrawal of cold water from the two lakes will negatively affect the temperature and dissolved oxygen quality of both fisheries. In the case of Lake Almanor, the habitable area of the 36 square mile body of water will be reduced to about 1 square mile, or less, a size not adequate to sustain the trophy fishery that also supports a major part of the Lake Almanor Basin economy.

THE AGENCIES INVOLVED IN PROMOTING THIS PROJECT ARE RESPONSIBLE FOR IMPROVING THE ENVIRONMENT, NOT DESTROYING IT!

The EIR is deficient in many areas regarding fishery impacts on both lakes:

1). First, the impact is not "Less Than Significant". It is major and un-repairable. Measured against the purported problem downstream in the "temperature impaired" reaches, or any benchmark, the destruction of the Lake Almanor and Butt Lake fisheries will be an environmental disaster and not permitted under CEQA.

2). Next, the contention in the EIR that the altering of forage fish entrainment, wagsaki, at Butt Lake is "insignificant impact" is incorrect and reveals a basic misunderstanding of the timing and nature of the feeding habits of and movement of salmonids at that location.

Water quality and algae in Lake Almanor and Butt Lake are not adequately studied:

The EIR conclusions regarding water quality are insufficient, partly because they do not analyze the conditions and potential damage adequately, but also because they ignore what the State Legislature and other agencies in the State of California are currently researching, including the SWRCB's own involvement.

Algae blooms are becoming a major issue in California and will increase with water body temperature increases, both from climate change and from irresponsible cold-water withdrawal, such as proposed from Lake Almanor.

The EIR seems oblivious to this issue and **Assembly Bill No. 300** currently proceeding through the California legislature.

While the SWRCB will be involved in mitigating algae blooms' toxic impact on water bodies, humans, plants and other life, another part of the agency is actively pursuing this project which is certain to add to the problem.

Some excerpts, taken directly from the draft of this bill (AB 300) highlight the deficiencies of the EIR in adequately identifying the safety aspects of warming the waters of Lake Almanor and Butt Lake:

"SECTION 1. The Legislature finds and declares all of the following:

(a) Toxic blooms of cyanobacteria in the waters of the state, including, but not limited to, coastal lakes, estuaries, rivers and streams, wetlands, and inland lakes and reservoirs, represent a threat to water supplies, human health, endangered wildlife, and recreational activities.

(d) The state's waters are especially prone to toxic cyanobacterial blooms due to our warm climate, numerous water diversions, and stressed waterways.

(f) ~~Microcystin and other cyanotoxins~~

Cyanotoxins are poisonous to humans, pets, livestock, birds, and other wildlife via ingestion, inhalation, or skin exposure. A single dose of microcystin can cause prolonged toxicity by cycling repeatedly between the liver and intestines.

(g) Blooms of microcystins and other toxic cyanobacteria are occurring in waters throughout California, and are threatening our water supply and health."

ANY ACTION POTENTIALLY LEADING TO THE CREATION OF ALGAE BLOOMS IN EITHER LAKE SHOULD BE FORBIDDEN PENDING SUBSTANTIVE RESULTS FROM THE RESEARCH RESULTING FROM THIS LEGISLATION.

IN ADDITION TO CREATING A POTENTIALLY SERIOUS HAZARD TO THE ENVIRONMENT, AND THE LIVING THINGS IN IT, THE PRESENCE OF ALGAE BLOOMS WILL CAUSE ECONOMIC HAVOC ON THE COMMUNITY.

THIS REGION HAS ALREADY BEEN DEVASTATED BY THE NOW DISCREDITED SPOTTED OWL DEBACLE, WHICH HAS DEVASTATED THE ONCE VIBRANT TIMBER INDUSTRY OF PLUMAS COUNTY. THE UNITED STATES FOREST SERVICE PROGRAMS TO CLOSE ROADS THROUGHOUT THE FOREST LANDS, OFTEN WITH NO REAL JUSTIFICATION HAS FURTHERED THE DAMAGE. NOW, AS OF LATE THEY ARE ALSO REACHING TOWARD SHUTTING DOWN ACCESS VIA SNOWMOBILE TRAILS.

ALL THIS ECONOMIC DAMAGE TO THE COUNTY HAS BEEN AN IMPORTANT ELEMENT IN THE DROP IN POPULATION FROM THE YEAR 2000 AT 22,000 TO THE ESTIMATED 18,000 TO DATE.

Additional safety factors:

The EIR is lacking any research of the safety of placing the Thermal Curtain in the Lakes. While thermal curtains have been used in other locations, these locations are absent the severe north winds experienced annually at Lake Almanor. Experience has shown that most floating structures are easily damaged when these occur. The massive weights of the floats and chains and the enormous weight of the fabric curtains present a clear danger of breaking up and entangling local structures, watercraft and humans. No attention has been given to the simple engineering of wave actions traveling horizontally beneath the water surface while the massive surface structures of the curtain elements will move vertically, placing unmanageable strain on the structure. The quantitative values are presently unknown, but also un-researched.

THE EIR IS TOTALLY DEFICIENT IN THIS AREA.

A SIMPLE SUMMARY

- 1) Cost to PG&E ratepayers - \$1.3 BILLION.
- 2) Destroy an upstream fishery.
- 3) Create a visual blight on the water, on shore with a huge spoils pile and disturb Native American burial grounds.
- 4) Waste billions of kilowatt-hours which must be made up by climate damaging fossil fuel. Alternate energy sources do not have the instant capacity of motoring hydro power to meet short notice energy supply.
- 5) Seriously damage a local economy.

All to alter a river stretch that has not been researched as to change resulting from hydro power plant placement.

This is an EIR laden with deficiencies.

This is also project suffering from bias, unrecognized dangers and impacts and outright manipulation of information.

It is inconceivable that an agency of the State of California, known for its environmental foresight would have been a party to, and, has allowed this project to get this far.



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