

# RE: FERC PROJECT 2105 ORIGINAL

361 Osprey Loop  
Chester, California 96020

FILED  
OFFICE OF THE  
SECRETARY

3 August 2004

2004 AUG 24 P 3 10

Governor Arnold Schwarzenegger  
Office of the Governor, State Capitol  
Sacramento, CA 95814

FEDERAL ENERGY  
REGULATORY COMMISSION

Dear Governor Schwarzenegger:

I am writing to make you aware of an impending ecological tragedy that is about to unfold in the mountains of northern California. It is a story that involves a big energy company and a misguided attempt to "improve" one stretch of river at the expense of the upstream ecosystem. Scientific assessments of the plan that have been made public to date have been uniformly negative, but the juggernaut still continues forward. The state and federal agencies that by now should have halted the plan have taken, at best, a passive stance. As a result, it now seems that the only hope for preventing a disaster is to make this absurd plan widely known to lawmakers, decision makers and the public at large.

### Background

By way of introduction, Pacific Gas & Electric Company (PG&E) is currently in the final stages of renewing its license with the Federal Energy Regulatory Commission (FERC) for its hydroelectric power generation facilities on the upper reaches of the North Fork of the Feather River (NFFR). This multi-year effort, known as FERC Project 2105, has dealt with a variety of issues, most of which have been successfully reconciled and settled. But a few months ago, almost as an "Oh, by the way ..." matter, PG&E noted that there would likely be a change in the way that water was handled from the upper mountain lakes in the system, to allow PG&E to satisfy a water temperature requirement stemming from an earlier relicensing of its facilities on a lower reach of the NFFR. As it turns out, this "small" change would result in a truly major ecological impact on the upper mountain lakes.

The North Fork of the Feather River has its headwaters in the runoff and springs immediately south of Lassen Volcanic National Park. The river empties into Lake Almanor in northern Plumas County, where it is impounded by a low dam. From that point onward, the water is recycled repeatedly through hydroelectric generators on its way downstream to the Sacramento Valley, ultimately arriving at Lake Oroville. A series of tunnels and penstocks (pipes) supplement the primary river channel to move the water to the turbine generators.

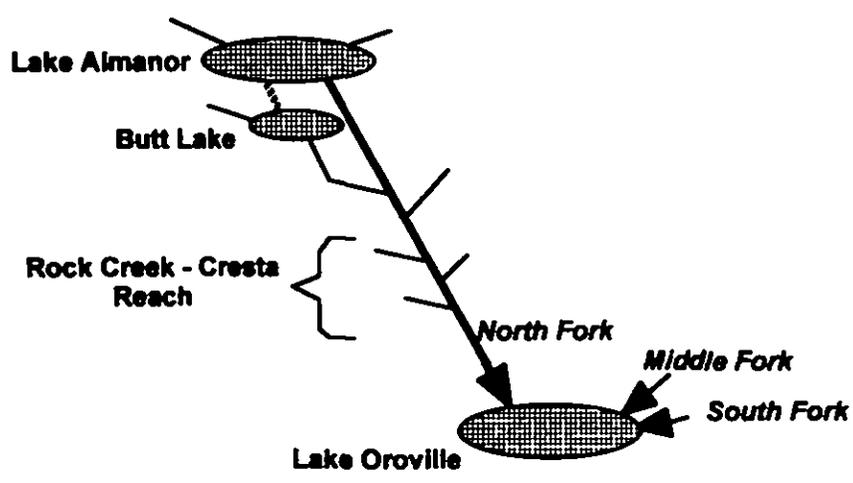
### Origins of the Issue

Several years ago, as part of the relicensing of PG&E facilities on a lower stretch of the NFFR (FERC Project 1962), the company agreed to maintain average river water temperatures of 20 degrees Celsius (68 degrees Fahrenheit) or less in what is known as the Rock Creek-Cresta Reach of the NFFR. This was intended to enhance the trout habitat in that region, where summertime water temperatures can exceed 20 degrees Celsius. The FERC Project 1962 relicensing agreement stipulates that this water temperature requirement applies to the NFFR between Rock Creek Dam and Cresta Power House "to the extent that Licensee (PG&E) can reasonably control such temperatures."

The agreement was made, unfortunately, without regard to either the history of the river nor the current state of affairs. Nobody questions the fact that trout do best in a cold water habitat. But as far as can be determined, there are no historic water temperature measurements available for the period before the advent of hydroelectric facilities that would substantiate a lower temperature in that stretch of the river during July or August. Indeed, it has been reported that measurements on the Middle Fork of the Feather River (which is free flowing and unfettered by dams or hydro facilities) indicate summertime water temperatures in excess of 20 degrees Celsius. And, as has now been established through several studies commissioned by PG&E, it is also clear that there are no simple and effective means of reducing current summertime water temperatures without major ecological impacts elsewhere. But none of this has stopped the plan.

PG&E's Plan

In its most basic form, PG&E's concept is to selectively withdraw the coldest water from Lake Almanor, quickly pass it through adjacent Butt Lake, and send it downstream so that it will cool the water in the Rock Creek-Cresta Reach:



A more detailed view of the NFFR complex is found in the attached diagrams, which illustrate both the regional layout and the associated PG&E hydroelectric facilities. Further information on the overall FERC Project 2105 relicensing effort, as well as this particular issue, can be found at <http://www.project2105.org> .

While the basic notion sounds simple, there are a number of important complications in the details. Starting with the physical side of things, the only way that Lake Almanor's cold water pool can be tapped effectively is with the installation of a large " thermal curtain" device that would prevent the warmer upper waters from entering the water intake. The planned thermal curtain appears on the surface as an unsightly string of water heater size metal floats, surrounding a 900 foot by 770 foot area, and supporting a fabric screen that extends down into the water. The curtain will, of course, become a hazard to navigation on the lake.

Only a small amount of lake water leaves Lake Almanor via the main river channel; most is drawn from an intake tower near the village of Prattville on the west shore of the lake. Once the water is drawn into the intake, it travels by tunnel and penstock to the Butt Lake powerhouse and then into Butt Lake. However, to minimize mixing with warmer Butt Lake waters, PG&E has recently noted that it will probably be necessary to install thermal curtains at both ends of Butt Lake as well.

### The Problem

Mixing occurs as the cool water works its way downstream. A large number of tributaries feed into the main channel of the NFFR, including a major, relatively warm flow from the East Branch of the NFFR. The net result is that by the time the combined flow arrives at the Rock Creek-Cresta Reach, there has been only a minimal reduction in water temperature. Studies released to this point suggest that during July and August, there would be approximately a one (1) degree Celsius reduction in nominal water temperature if this plan is implemented.

But the story gets better. Achieving that one degree temperature reduction is not without cost. The price tag for the necessary underwater excavation, thermal curtain fabrication and installation at Lake Almanor is vaguely described as of the order of \$20 million. While the cost for similar work at Butt Lake has not yet been released, it could easily be in the same range. So the initial costs of achieving a one degree temperature reduction downstream may be about \$40 million, all of which will be paid by PG&E ratepayers in the form of increased utility rates.

And then there are the ecological costs. By focusing attention on the lower reaches of the Feather River and ignoring the impact upstream, PG&E and the oversight agencies have thus far missed the warning signs of an impending crisis at Butt Lake and Lake Almanor. Both lakes are currently considered world class cold water fisheries. Unfortunately, that would change dramatically if the PG&E plan is allowed to continue.

The current connection between the lakes maintains a large cold water pool in Lake Almanor, transfers pond smelt to Butt Lake (as feed for trophy trout), and assures that the level of dissolved oxygen is maintained for proper fish habitat in both lakes. The planned thermal curtains will completely upset that ecological balance, removing 50% of the cold water pool in Lake Almanor, increasing algae bloom, eliminating the pond smelt transfer, modifying the food chain and drastically altering the critical dissolved oxygen levels. Individuals who are knowledgeable in fishery criteria have indicated that the thermal curtains will eliminate Butt Lake as a cold water fishery and significantly impact Lake Almanor as well. From the standpoint of the local economy, which depends heavily on tourism and outdoor recreation, such changes would be devastating. From the standpoint of the public at large, it would be unconscionable.

### Where are the Checks & Balances?

One would think that a thorough environmental impact review and a complete cost-benefit analysis would have been required before such a plan would proceed to this point. However, that is apparently not the case. It was indicated in a recent meeting with PG&E that FERC is just now conducting an environmental review of the overall project in parallel with the relicensing process, but it was unclear whether the thermal curtain matter has ever even been brought to FERC's attention. Within the state of California, it is also unclear whether the requisite review agencies have been advised of the details of this major ecological issue.

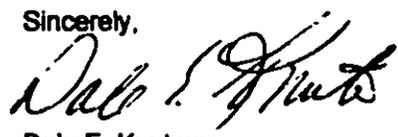
From the perspective of a mountain resident who cares deeply about the region, I am completely amazed that the thermal curtain plan would continue in the face of such consistently negative findings. To summarize, it would:

- Cost tens of millions of dollars to install
- Cost an unknown additional amount to maintain
- Completely wipe out one trophy trout fishery (Butt Lake)
- Cause major harm to another major fishery (Lake Almanor)
- Create a hazard to navigation on a recreation lake (Lake Almanor), increasing the risk of boater injury
- Damage the economy of the Lake Almanor basin
- Reduce the summertime water temperature in the lower reach of the NFFR by about one degree Celsius.

I don't fault PG&E for initially proposing the concept. But it seems incredible that PG&E would continue the approach when study after study have pointed out its failings. By now, it should be obvious to all that this is not a reasonable thing to do. And I find it disturbing that the involved state and federal regulatory agencies, who should be aware of these pitfalls and who are supposed to represent the taxpayers, have not yet said "enough." Instead, all concerned seem bent on approving this absurd idea in time for an October 2004 relicensing deadline.

This is a truly outrageous example of a poorly-substantiated requirement leading to an ill-conceived plan with no serious checks and balances to protect the long term best interests of the public or the environment. By focusing on one short stretch of a river and ignoring the larger ecosystem, the organizations involved have failed the taxpayers.

Sincerely,



Dale E. Knutsen

- Enclosed:
- (1) Map: *Regional Overview - North Fork, Feather River (NFFR)*
  - (2) Map: *PG&E Hydroelectric Facilities - North Fork, Feather River*

Copy to:

Senator Dianne Feinstein  
525 Market Street, #3670  
San Francisco, CA 94105

Senator Barbara Boxer  
650 Capitol Mall, Suite 6544  
Sacramento, CA 95814

US Representative John Doolittle  
4230 Douglas Blvd., Suite 200  
Granite Bay, CA 95746

State Assemblyman Rick Keene  
1550 Humboldt Road  
Chico, CA 95973

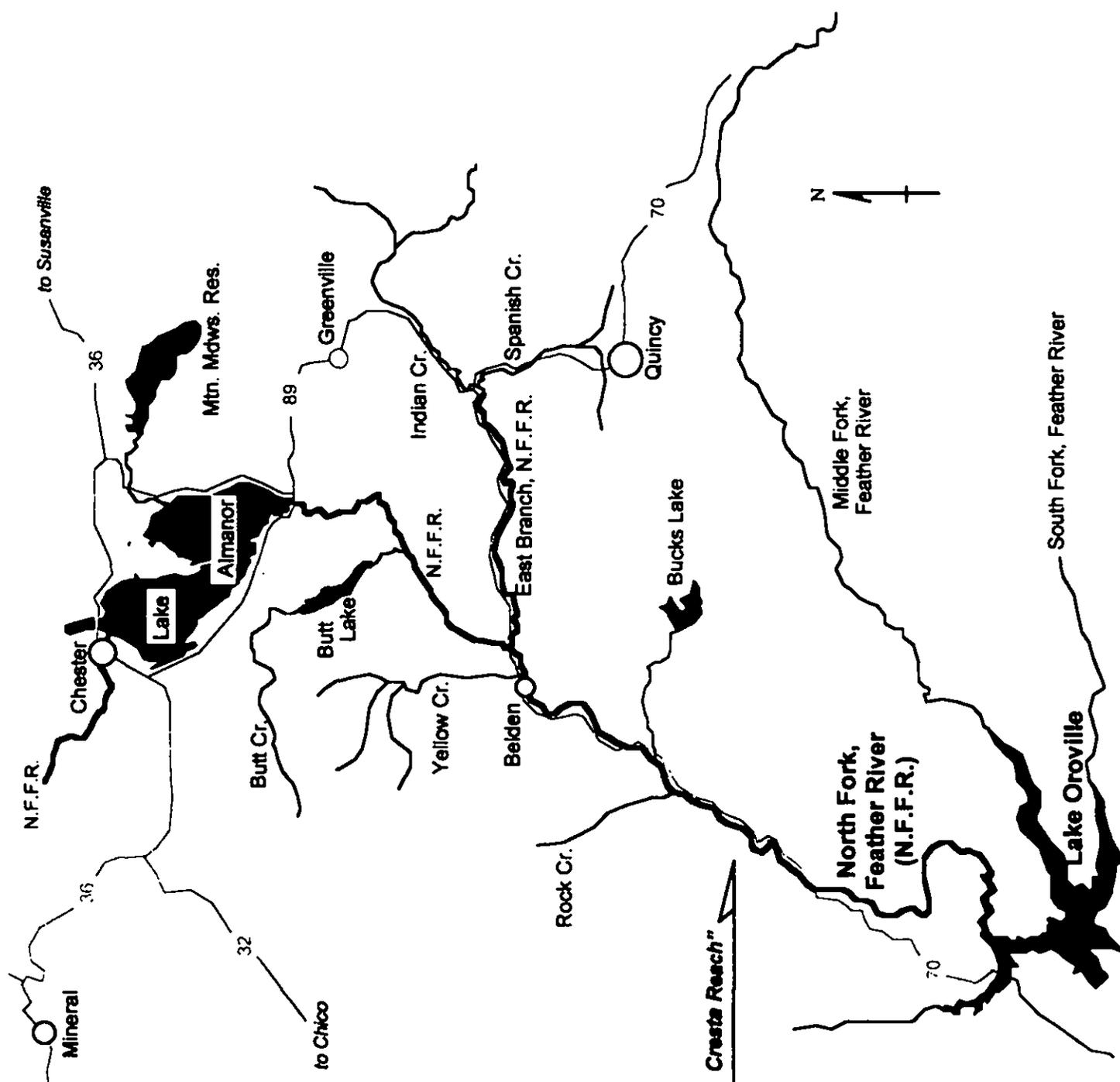
Chico Enterprise-Record  
400 East Park Avenue / P.O. Box 9  
Chico, CA 95927

Sacramento Bee  
P.O. Box 15779  
Sacramento, CA 95852

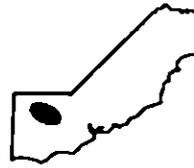
KHSL TV  
3460 Silverbell Road  
Chico, CA 95927

KCRA 3 News  
3 Television Circle  
Sacramento, CA 95814

Federal Energy Regulatory Commission  
888 First Street, NE  
Washington, DC 20426

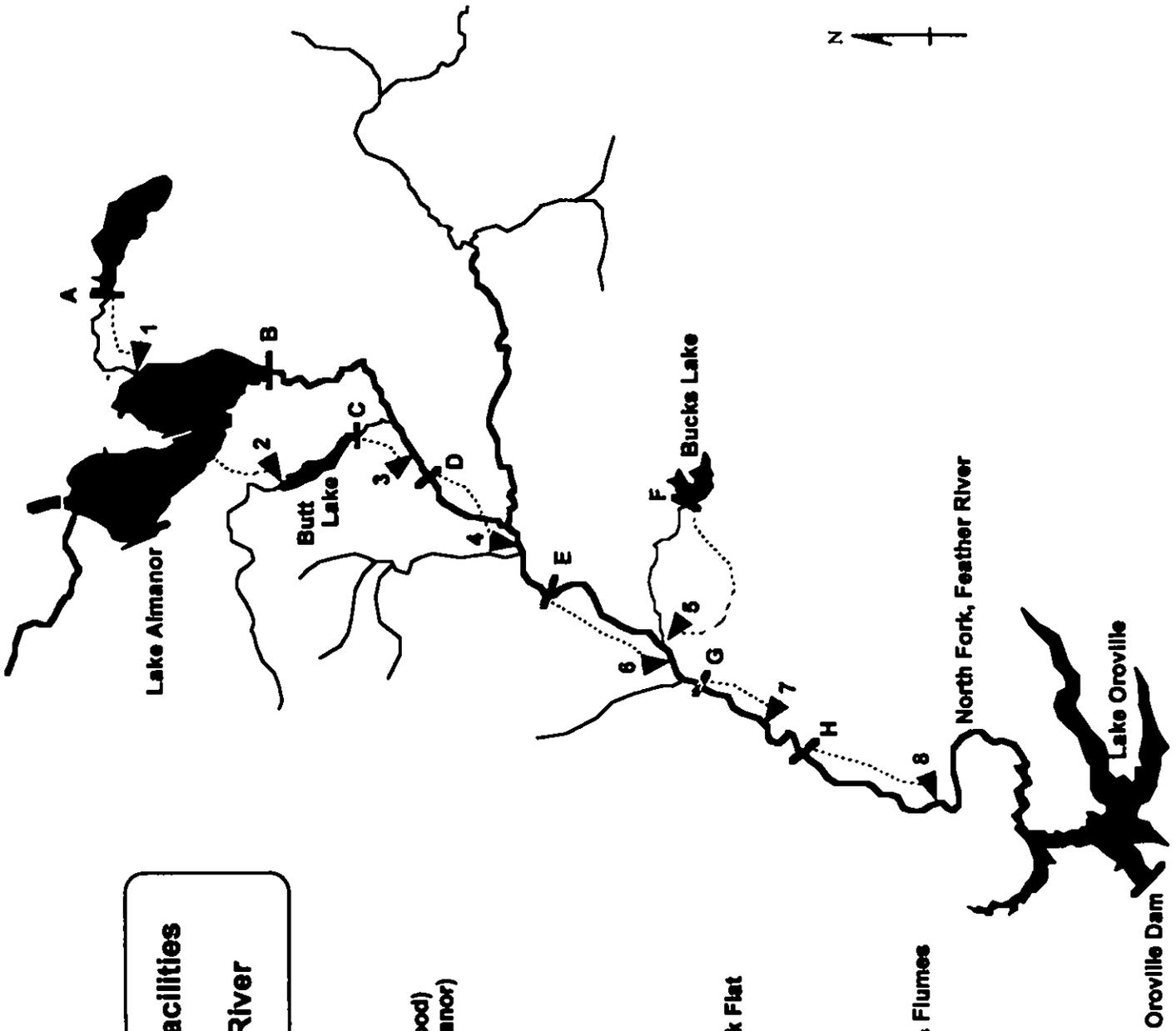


**Regional Overview**  
**North Fork, Feather River**  
**( N. F. F. R. )**  
 Located in  
 northern California,  
 east of the  
 Sacramento Valley



**"Rock Creek - Cresta Reach"**

**PG&E Hydroelectric Facilities**  
**North Fork, Feather River**



**— Dams:**

- A - Indian Ole (Westwood)
- B - Canyon Dam (Almanor)
- C - Butt Valley
- D - Oak Flat / Carlbou
- E - Rock Creek
- F - Bucks Lake
- G - Cresta
- H - Poe

**▲ Powerhouses:**

- 1 - Hamilton Branch
- 2 - Butt Valley
- 3 - Carlbou (1 & 2), Oak Flat
- 4 - Belden
- 5 - Bucks Creek
- 6 - Rock Creek
- 7 - Cresta
- 8 - Poe

..... Penstocks, Tunnels & Flumes