

The Comments of Davis Hydro
On the
The PG&E Preliminary Proposed Decommissioning Plan

October 12, 2007

Background

Introductory comment: The PG&E decommissioning plan as presented is based on the premise: *The removal of the facilities is best because the virgin natural state is best.*

Our background comment is that this is not the best plan because the environment has changed to such an extent that simply removing the facilities will cause greater harm than alternatives that include leaving some of the facilities in place to generate cash to fund alternative plans. The agency agreement to remove facilities and return most of the facilities to a near natural state was made without investigating the alternatives that will have greater benefit to target species and less negative impacts on the existing human and non-human environment.

Specifically, the following changes have taken place in the area over the past century:

- Humans have moved in who count on the Kilarc forebay to provide fire protection
- Humans have come to depend on the jobs directly and recreation jobs indirectly created by the fishing in the Kilarc forebay.
- Humans have come to depend on the water being delivered directly to the Abbott ditch and possibly indirectly through leakage to homes in the Whitmore area.
- Frogs, turtles, and possibly other listed species have come to depend on the numerous ecosystems created by the diversions, forebays, and tail races.
- Headraces, forebays, and the South Cow Tailrace are rich in local wildlife.
- The elevation of all watercourses has changed over the past 100 years forcing any change to be a new ecosystem rather than a restoration.

The baseline alternative is “no action” which in this case is to have someone continue the operation of the facilities. We have sent PG&E extensive discussion on this alternative and this alternative establishes the baseline for evaluating PG&E’s decommissioning plan.

Baseline Conditions for the Fish

In a normal new hydro development the *build* alternative is compared to the *no-build* alternative. In the no-build case there is an existing ecosystem that will be disturbed by the development. When the development is built, a new ecology develops in response to the development. That takes time and clearly it is a new ecosystem and new habitat for the species involved. In this case, we have a similar situation; the ecosystems that exist

are the result of 100 years of existence of the PG&E hydro operations. In their removal, we create new different ecosystems that are at complete variance with the existing channels, water supply, and banks in the area. It is not possible to just flood an area and instantly create a mature “natural” ecosystem that could be envisioned to have existed pre-project, pre-human, pre-erosion, pre-seeding the area with hatchery fish. Flooding the eroded streamways creates new habitat that has no relationship to the habitat of a century earlier except approximate location.

In building a new hydro there is often a great effort to create a mitigation program that includes creating valued habitat to substitute for the habitat removed or degraded by the hydro development. In this case of the removal of the Kilarc-Cow Creek facilities, it is perceived that new habitat will be created by the facility removal. The study we are requesting PG&E do is to study what is the best way to produce useful fish habitat. A natural reaction is to return the sites to the natural virginal condition. Unfortunately, as has been outlined above, that is not possible due to changes in land use, flora and fauna, and streambed geology unrelated to the project. There is no going back, so the question is what is the best way forward.

To go forward, for the fish of interest one might adopt as a starting point in decommissioning studies the following question,

What is the most new useful habitat that can be created in the decommissioning process to make up or extend the habitat changes during decommissioning process?

This question has not been addressed in PG&E’s plan, or previous studies. Likewise, the habitat for other animals that has evolved during PG&E’s tenure on the land constitutes a significant ecological footprint. Partly this change is due to the hydro operations and facilities such as the rich habitats of the forebays, but there has also been a change in the river beds, land use and human occupation in response to those facilities. Removing the facilities will not recreate the conditions of 100 years ago for animals and the humans either.

This comment is not to suggest that PG&E’s process should or could return the landscape to its original condition – that is clearly impossible. We ask only what are the best possible actions that can be taken for the target populations. Walking away doing physical landscaping and facility removal may not be the most cost effective or best remediative effort. If the facilities are removed, the created habitat is new. It may not be very friendly to the species of plants and animals that have moved in the past century. In summary, if there is other habitat that supports the target species, the habitat created in the bypass areas may not be the best that can be created during the decommissioning of the project; rather we suggest

An examination on how the current facilities could be used to best remediate the sites. Include in that study an examination of a continued operation of some of the facilities by others that will create fruitful habitat as a condition of their tenure.

Davis Hydro has suggested the general concept of operating some of the facilities similarly to current operation and using some of the profits from that operation to create new habitat, and to rehabilitate other habitat that will exist. It would be great benefit to all if we can meet the habitat creation objectives of the fisheries management agencies and at the same time maintain or create new habitat for many animals that will not survive if operations are ceased at these sites.

Comments on applicable Desired Conditions

Section 2.1 in the Preliminary Proposed Decommissioning Plan (PPDP) refers to the Desired Conditions in Attachment A of a March 22 2005 Agency Agreement (AA) with relevant agencies (but not the public). While we agree that many of these conditions are desirable and reasonable objectives, the method used to get there is at variance with any known NEPA process. Perhaps the first step is to ask for a reference to a part of the NEPA process where this conclusive agreement fits. If there is no such reference, could we eliminate it as a decision document, but rather treat it as a valid discussion document.

As members of the public, we are being asked to comment on a document – the PPDP derived from this AA. In the AA there are Desired Conditions some of which are directly related to this PPDP and thus deserve a deserve comment as follows:

AA Attachment A 9. Public Recreation Opportunities

a) Achieve a balance between lost recreation at Kilarc forebay with other recreation opportunities (e.g. fishing and picnicking)

Comment. It is unclear what this Condition means. Removing Kilarc reservoir destroys reportedly the best handicapped fishing in the state. Removing the rest of recreation opportunities for fishing and picnicking along the canal and forebay is not a balance.

b) Recreation stream fisheries enhanced

Comment: There is virtually no public access to these creeks for public fishing in or near the project areas. Removing the Kilarc facility has no substitute.

c) Pubic Access available to recreation opportunities (*sic*)

Comment: Since they are all being removed, it is unclear how this will be accomplished.

AA Attachment A 16. Protection of Special Status Species

a) Compliance with CESA and ESA

In the case of *O. mykiss*, we are not preserving a species, nor a subspecies, but rather a behavior of an indigenous artificially ubiquitous fish, the best enhancement measure is

the creation of habitat at a location that would allow or encourage the desired behavior that defines the ESA concern.

While in the case of Kilarc flooding the bypassed reach will create some new habitat, there are severe impediments to the behavior being expressed. It is the behavior we are promoting under CESA and the ESA, so to induce the behavior it is probably more efficient and fruitful to create and maintain new habitat at locations where the behavior can more easily be expressed.

It is probable that some steelhead, at some times, at some flows, can swim upstream past at least the Whitmore falls, it is unlikely they can pass the severe cascade 2 miles upstream except in the most unusual of circumstances. Upstream of these natural impediments on the Old Cow may be rainbow habitat, but the impediments suggest it is poor as a migratory habitat. If an objective of the ESA is to preserve the behavior, again, it is far more efficient to create habitat where the desired behavior can more easily be expressed.

It might be argued that the *O. mykiss* phenotype expressed in the upper Old Cow is worth preserving as a viable feedstock. However, even if that were true, three things may question the value of this idea:

- There has been stocking of this area with *O. mykiss* over the past 40 years and all of these will interbreed diluting profoundly any unique genetic content.
- There has been no known indication of anadromy in the area. Rather a clear expression of doubt has been expressed that such ever happened by all the local fishermen who have a considerable interest in the subject and the fish.
- Assuming that there is some unique genetic content maintained upstream of the Kilarc facility, it has evolved to be stable there over the past 100 years. It has adopted a stable non-migratory lifestyle and encoded a stationary behavior.

Thus, we recommend a serious study of where else mitigation habitat can be created. The possibility of restoring rainbow habitat is not relevant, or useful, if the amount of anadromy is limited by mostly natural barriers.

If this decommissioning plan proceeds as described; the bypass Kilarc habitat is perfectly restored and filled with rainbow after a few years, but due to the barriers only a few fish migrate up to this area, little anadromy is produced. This would be a waste of a green power resource for little or no enhancement of the behavior of the target species; rather due to the indirect effects of acid rains this action may be destructive to many endangered fish across the US as will be discussed below.

There are currently plenty of upstream rainbow trout emitting young downstream. However, unless significant numbers of fish come upstream past the barriers, little or no improvement in anadromy will result at the Kilarc site. The study that needs to be done is not whether some habitat is created with more flow – at least in the bypass reach and ignoring any lost habitat downstream to thermal effects – the important question is, will

anadromy increase significantly? In this study, the PPDP alternative can be compared to another alternative that uses the income from the Kilarc facility to purchase or create habitat at a location where there are no barriers to the sea. This approach of increasing useful habitat that increases steelhead behavior rather than rainbow numbers is the core of the Davis Hydro proposed alternative.

Specific Comments on the PP Decommissioning Plan

The PPDP contains no analysis of potential environmental effects associated with the transition from the baseline condition (continued operation of the project, as is) to the future condition. Such environmental effects will need to be assessed before an adequate NEPA document can be prepared and adopted by the FERC, before the FERC can accept PG&E's license surrender. Whether the proposed license surrender plan involves "walking away and locking the door" or dismantling of the project as described in the PPDP, the FERC must review the environmental effects of the action to be authorized, and a range of alternatives that may reduce the adverse environmental effects of any selected alternative. Community stakeholders have identified numerous effects of the proposed dismantling of the project that are or may be significant adverse impacts of the project as presently proposed by PG&E - studies must be conducted to characterize and quantify the nature and magnitude of all potentially significant adverse impacts.

Recreation

AA Attachment A Condition 9 addresses recreation, as is discussed above. Recreation is not addressed in the PPDP.

Fire

The AA Desired Conditions generally emphasize safety, however, there is no mention that this is a major forest fire area prone to burning. The main feature that will prohibit the burning of much of Whitmore is the water available from the Kilarc forebay. There is no mention in the document that fire prevention is a desired condition for the houses that have been built in the shadow of the Kilarc forebay.

Section 2.2.1 The North & South Canyon Diversion and Canals

The water from the North and South canyons is cooler in summer and warmer in winter than the water coming down from the diversion dam. This augments the temperature moderating effects of the Kilarc water injected into the stream at the powerhouse.

A study needing doing is the effect of the cold water coming down-stream in the summer on habitat definition lower in the Cow. While the effect is small, the Kilarc facility

conveys the cold water directly from these North and South Canyon diversions as well as the main Old Cow diversion rapidly to the Kilarc Tailrace. The resulting outflow from the Kilarc powerhouse cools the Cow downstream in the summer where the key determinant of fish habitat is temperature. Removal of this cold water in the summer, both the small amount of water from North Canyon and the larger amount from the diversion will have an effect downstream on habitat area not only for steelhead but also for late-fall run salmon, another listed species.

Basically, a study that is needed is if you remove Kilarc how much multiple listed species habitat will be destroyed by temperature increases downstream in terms of area since habitat extent is defined almost entirely by temperature in this area. This lost habitat must be balanced against the habitat in the Kilarc bypass reach, and then adjusted for expected contribution to anadromy by target species.

Section 2.2.3 The Kilarc Diversion Dam

As can be seen on Page 2-17 in photo 2.2.3.1, the current diversion dam provides no storage and little impediment to migrating fish at certain times of the year. There is little reason to remove it if fish passage downstream is a concern. Upstream migration is nearly completely blocked by a cascade a mile downstream. Equally important, is that the diversion may be, or have been, a small impediment to fish stocked in the diversion migrating upstream thereby either seeding the upper Old Cow or diluting any unique rainbow genetic stock in the area.

Section 2.2.4 The Kilarc Main Canal

This is a substantial informal three mile hiking and camping area used for recreation and occasional trout fishing. It could easily be improved as a substantial fish spawning and early juvenile habitat experimental opportunity. There is no study or path presented how this facility could provide future recreational or fish generation services. While the use of diversions, canals, and ditches as informal spawning grounds is experimental, these are experiments that can be made now at little cost and no risk. The only beneficiaries are the fish. Davis Hydro strongly suggests undertaking these studies as part of a responsible alternative decommissioning plan.

Section 2.3.3 The South Cow Diversion

The removal of the South Cow Diversion and the resulting flooding of the bypassed region is assumed to create new habitat and new stocks of rainbow. In fact, PG&E has acknowledged that it cannot avoid other issues unless the water right in the German Ditch Association remains with the association for re-distribution to its members. There is often now, not enough water left in the South Cow below the German ditch diversion to meet even the needs of downstream water rights holders. This means that removal of the

PG&E diversion would not increase the amount of water in the natural stream when all the diverted water is claimed by downstream consumptive rights and no additional water is actually available for diversion. Simply put, there will often be too little water to make any difference in the Creek. This needs to be studied, for if the facility is abandoned and there is little or no increase in usable habitat, a green energy source will have been lost for no count. This is an example of where the actual real world environment is different from the virginal world envisioned as the baseline for comparison.

On the South Cow, the current ecology centers on the forebay which is rich with wildlife – especially various birds. The destruction of this area needs to be studied. The PPDP suggests that many of the listed species threatened by their PPDP can be picked up and moved to a new habitat where conditions are more favorable. The process of selecting a remediation habitat that is conducive to breeding is similar to our suggest task of finding the best possible habitat for inducing migration in the target fish.

Section 3.1 Project Resources and Measures

The cited studies found abundant rainbow trout above Kilarc. They did not find any Steelhead. Being that there are a high density of rainbow in the reach, (as noted by CDFG Page 3.45) it would be logical that a significant number are now being emitted downstream as juveniles. None are seen in the cited studies as returning. The many fishermen in the area report that they have never seen any steelhead above Whitmore Falls. The point is made that even if all the Kilarc facilities were removed and the number of resident rainbow increased significantly, that there might not be significant anadromy. Davis Hydro does not question that some fish could make it up the falls in some years in some flows. However, alternative habitats exist and can be improved to produce far more anadromy than will be produced by expanding the habitat above the barriers of the Kilarc diversion.

The study requested is if Kilarc were to continue, could the revenue be used to secure better *i.e.* - more conducive to anadromy - habitat than is provided behind these documented and clearly somewhat effective barriers.

Neither CDFG nor NMFS are concerned about the amphibians, turtle, bat, and bird habitats that are going to be destroyed. CDFG speaks for the fish, but no one is now speaking for the rest of the animals who live in this habitat created long ago by the hydropower. The study needed is if the Kilarc Green power is being destroyed for a hypothetical increase in unobserved and possibly uncommon anadromous fish, how does that balance legally against the destruction of the habitats of all the other species. It is clear that there is a clear destruction of habitat for several listed species and a small or non-existent increase in steelhead – as defined by anadromy, but it should be included in the scope of studies undertaken to evaluate the alternatives.

Page 7-68 References

The most recent citations include conversations and a review of the California Natural Diversity Database in 2003, and a single site assessment for California Red-Legged Frog Habitat in 2004. The cited Watershed Assessment was published in 2001 (a document relying primarily on secondary-source data, much of it older), and the cited 1995 CDFG report does not address Steelhead. Surveys conducted between 1965 and 1986 (the balance of the references cited) are completely inadequate for characterizing the current baseline conditions. PG&E has provided NO data to substantiate the assumption that re-routing water from existing project facilities through channels and habitat that presumably represent a "natural" pre-project condition would better support the recovery of undocumented anadromous fish populations.

Consequences of Destruction of Green Power

Finally, not included are the issues raised in discussion alternative proposals by Davis Hydro. The power generated here is green power. It produces no acid rain and no global warming. If this power is eliminated it will be replaced one-for-one with fossil power because all available efforts are already engaged to produce other renewable energy. The acid rains from this power will be carried by the prevailing westerly winds across the US decreasing the pH of all streams down wind. Obviously, the effect on any one stream from this small change will be small, however, as with global warming, the overall effect on the destruction of fish habitat across this country and to a less extent across the world may integrate to being more destructive than the unobserved, increase in anadromous fish that may result from the habitat improvements in the bypassed reaches of the Old Cow.

Streams in Northern California are generally on igneous rocks like granite and basalt. The streams are very poorly buffered in that there is little soluble limestone and therefore (like Vermont) very susceptible to acid rain degradation and loss of trout habitat. On a federal level, the acid rains blow east from California polluting streams across the country much like the streams in this area are showing the effects of pollution blowing in from China. The acid rains from replacing this green power could be profound in terms total of its marginal effect spread across the whole airshed.

Is this the correct legacy we want in this action – the creation of another rainbow habitat, while contributing incrementally to the destruction of fish across the county? We are admonished to think globally and act locally, but this local action will have with certainty widespread pollution ramifications. It will directly contribute to the destruction of fish across the country and indirectly affect the whole planet through global warming.

We are mandated to think globally by the ESA. ESA is concerned about one small stream in California because the loss of these fish is a national issue and each stream is part of the whole. That being the ESA (or CESA) scope, the same scope should be used for measuring the effects of local actions like destroying green power on the same fish or more generally on all endangered species. A decommissioning plan should measure

effects globally from a local action. California agencies reviewing this plan might consider the effects of the resulting pollution on the whole state, and federal representatives should insist on evaluation of national if not global effects on their target species. A complete decommissioning plan should address for the National Marine Fisheries Service – not the Whitmore Fisheries service, the national impacts on a species from both the direct action of increasing water in a bypass and the indirect effects of harming the same and other fish nation wide.

Just as we cannot ignore the strangulating effect of the barriers such Whitmore falls on the efficacy of the anadromous fish habitat improvement, we cannot ignore the down wind effect of the consequences of destroying this green power source. Unless we consider these effects, we are ignoring global effects and our local accomplishments will be irrelevant.

A Way Forward

In our review of the PPDP, we have suggested studies to be begun immediately. The key element that needs to be added to the present evaluation is a set of metrics for balancing the benefits of taking one action versus another. If it is possible to determine a means of retaining a sufficient diversion through Kilarc Canal to preserve all the other benefits identified by community stakeholders that would be lost with the abandonment of Kilarc Reservoir, while providing the same net benefit to anadromous fish as under the PRELIMINARY proposal to dismantle all diversion structures, then the preferred license surrender path will be clear.

PG&E has provided in its PPDP an engineering action-specific framework for evaluating the effects of its proposed action. Now is the time to undertake the studies necessary to determine the effects of the proposed action, and how modifying the proposed plan may mitigate these. The Central Valley office of NMFS in Sacramento, and Wildlands, Inc., have established parameters for measuring the relative benefits of different modifications to anadromous fish habitats that can and should be applied to the project area to most efficiently utilize personnel participating in the evaluation process.