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Subject: Comments on Draft EIR for Lower Klamath Project (FERC Project No. 14803)
Date: Tuesday, February 26, 2019 11:07:54 AM
Attachments: [JLB Comments SWRCB Draft EIR Lower Klamath Project.doc](#)

State Water Resources Control Board

Division of Water Rights

P.O. Box 2000

Sacramento, CA 95812-2000

wr401program@waterboards.ca.gov

Comments on: Draft EIR for the Lower Klamath Project
(FERC Project No. 14803)

Atten; Ms. Michelle Siebel

THE KLAMATH RIVER HYDROELECTRIC FACILITIES (FERC Project No. 2082) have been requested for Decommissioning by PacifiCorp (Surrender of License #20160923-5370) for Iron Gate Dam, Copco No. 1 Dam, Copco No. 2 Dam, J.C Boyle Dam, and appurtenant hydroelectric works and to be transferred to a dam removal ("shell") corporation (KRRRC).

Klamath River information: 1. The Klamath Basin is the only upside down basin on the west coast (warm poor water quality above J.C. Boyles Dam), with water temperature and quality improving as it travels to the ocean. 2. Moonshine Falls, directly below J.C. Boyles Reservoir, is cited by CFW to be the upper most habitat for anadromous fish. 3. The downstream Dams have absolutely nothing to do with the Upper Basin water wars. They improve the DOI Klamath Project regulated flows to farmers and ranchers by providing required minimum instream flows. 4. The California dams have been recently inspected by the Division of Dam Safety and are in good condition. 5. These dams provide a 25+% down river flood and surge protection, based on the 1964 flood hydrograph measured at the gage below Iron Gate Dam, and provides an average yearly water quality improvement. 6. Given the condition of a complete Klamath River cutoff by the DOI or a severe drought, the dams can also provide CDFG/CFW's 700 cfs minimum instream river flows for a three month period with adequate storage retained for Lake Habitat.

It is within the SWRCB & FERC's responsibility to consider the public interest to retain and pursue the relicensing of the hydroelectric facilities to a "responsible" entity. Siskiyou and Klamath Counties, and the Cities within, have the statutory responsibility to provide and protect the public's interest and safety to all citizens and protect the environment for present and future generations. Through proper and legal voting procedures in 2010, the voting populous of Siskiyou Co. (79.04%), and in 2016 Klamath Co. (72%), OVERWHELMINGLY voted to retain the Klamath River Dams and Hydroelectric Facilities.

STOP the largest Proposed Dam Removal Project in the World and preserve the Klamath River Basin economy and ecosystem. It HAS NOT been established that anadromous fish habitat exists above J.C. Boyles Reservoir or that any other listed benefits justify Dam Removals.

As a Registered Engineer and former State Employee with Caltrans Hydraulics and Hydrology Section and the Resources Agency and in private practice, I was responsible for drainage analysis and designs, the preparation and analysis of Environmental Impact Reports (EIRs) and Storm Water Pollution Prevention Plans(SWPPPs). The Department of Interior(DOI) and States of Calif. and Oregon have failed to prepare and complete 401 Clean Water Act and environmental studies to legal and acceptable standards that support Dam Removals for the following reasons:

- 1. Coho Truck and Haul Studies above J.C. Boyle Dam were demanded but refused by the DOI, probably because they realized anadromous habitat did not exist. A common analogy is that the only way Coho juveniles can get back from the tributaries of Upper Lake to the**

- ocean is to become flying fish . This study must be completed to support Dam Removals. Without this study the environmental documents fail and will initiate MAJOR LAWSUITS.
2. The environmental documents are incomplete. (Fail to analyze alternatives with Dams in place). (Fail to provide a Cost Benefit Analysis). Including substantial crop and property value losses to Farmers and Ranchers due to unjustified DOI water cutoffs.
 3. The release of 20 +/- million cubic yards of toxic sediments retained behind the Dams down river is irresponsible, violates the 401 Clean Water Act, and requires the preparation of a “Storm Water Pollution Pretention Plan”. It will decimate river habitat for decades. It is irresponsible that sediment removal by dredging has been abandoned because of cost!!
 4. The Calif. Division of Dam Safety under existing law requires that Dam Removal Plans be submitted and approved, and verify Dam Removal Plans and Conditions are followed.
 5. Siskiyou and Klamath Counties have and are mandated (within their existing regulations and public safety authorities) to require and approve Klamath River Dam Removal Permits (They are not preempted by State and Federal Governments)
 6. The DOI and State Agencies have circumvented State and Federal Laws by certifying bogus scientific studies to justify dam removals, commonly cited by recognized professional Biologist, Scientist and Engineers as SWAGs (Scientific Wild Ass Guesses)
 7. The Flood Control provided by the Dams proposed for removals is substantial: My comments on the Klamath Facilities Removal Final EIS/EIR to the BOR is attached for your review showing that my 100 yr. flood calculation of 37,000 cfs below I.G. Dam, based on the 1964 flood hydrograph, reduces peak flow by 26%. My 100 yr. peak flow should be much lower than what is being used for the Klamath River flows for the Lower Klamath Project. (Table 3.6-9 shows that the Dams only provides a 6.9% reduction in flood attenuation). See Attachment #1. I expect a response.
 8. The Draft EIR fails to consider feasible and public supported Alternatives with the Dams remaining in place.
 9. My comments on the Klamath Facilities Removal EIR Public Draft EIS/EIR are also attached to address deficiencies and failures in the EIS/EIR process that need addressing. See Attachment #2.
 10. Failure to address the above listed deficiencies, documentations, studies and permits WILL INVOLVE MAJOR LAWSUITS.

THE FOLLOWING PROJECTS (ALTERNATIVES WITH DAMS IN PLACE) HAVE BEEN PROPOSED TO FACILITATE “FERC” RELICENSING, PROMOTE THE PUBLIC AND ENVIRONMENTAL INTEREST, COMPLY WITH THE BI-STATE COMPACT, AND PRESERVE THE KLAMATH R. BASIN

1. Implement the Shasta Nation Tunnel Unassisted Anadromous Fish Passageway around Iron Gate, Copco 1 and Copco 2 Dams at a cost of \$50 million (1/6th the \$300 million cost estimated for installing fish ladders and 1/20th the \$1+ billion estimated for dam removals and restoration). This will provide anadromous fish passage around Iron Gate, Copco 1, and Copco 2 reservoirs to the pre-dam 20 miles of native river habitat above Copco 1 Reservoir. This proposal has a very positive write up in the DOI’s EIR. **(It was not considered because it required retaining the Dams).** A former DFG official stated that he could not support this alternative. He also stated that he could not support proposed fish ladders either because there is no habitat above the Dams to warrant the expense of either.
2. Implement the 60,000 ac.ft. Klamath River/Shasta Valley Reserved Water Right (A0169580), transfer canal and storage facilities to supplement Montague Irrigation District’s irrigation water with Klamath R. water (poor water quality containing high nutrients). This project augments current irrigation supplies, allows for additional land to become irrigated, and replaces naturally impaired

Upper Klamath R. water with higher quality water. A portion of the reduced water demands (good water quality) can be released by the District from Lake Shastina or from their wells into the Shasta River, improving the water quality in both the Shasta River and in the Klamath River below Iron Gate Reservoir per FERC recommended requirements for relicensing. The Shasta Valley RCD & CDFG contracted a similar augmentation study in 2007 that has since been politically shelved. (Because it depends on retaining the dams scheduled for removals) Ref: (CDFG Project No. P0310329) **I recommend combining Alternatives 1 & 2**

3. Establish additional reliable storage facilities within the Klamath River Basin, including increasing storage capacities of high-elevation lakes as recommended in the October 1991 Department of Water Resources Study: *SCOTT RIVER FLOW AUGMENTATION STUDY*, and introduce juniper removal projects. Added storage facilities and juniper removals projects will provide thousands of ac-ft. of additional surface and ground water storage, provide additional wildfire protection, increase late summer and fall instream flows, and augment irrigation waters.
4. Establish a Public Utility District within Siskiyou and Klamath Counties to take possession of the hydroelectric facilities and pursue FERC re-licensing. Note: This process is underway in Siskiyou Co. and planned to involve Klamath Co. and the Shasta Nation in the future.

These proposals will:

- **Save the Hydro-electric Dams** which generate clean, green, renewable power to 70,000 homes and protect the lake habitat and homes in and around the reservoirs by removing dam removals from the proposed Lower Klamath Project and the Klamath Basin Restoration Agreement (KBRA), and eliminating the Klamath Hydroelectric Settlement Agreement (KHSA).
- **Save Iron Gate Fish Hatchery**, which is dependent on cool low level water releases from Iron Gate Reservoir, which releases over **six million salmon and steelhead fingerlings per year** into the Klamath River. **Note:** A former Ca. DFW Game Warden stated, "It is *impossible* for the Klamath River Habitat above Iron Gate Dam to duplicate the production of fish generated from the Iron Gate Hatchery."
- **Save future impacts on the Fall Creek Hydro-electric Facilities and Yreka City Fall Creek water supply.**
- **Save the Klamath River from complete destruction** by eliminating the proposed and irresponsible releasing of 20 million cubic yards of sediments and pollutants retained behind the dams down river. This equates to sediment 3ft. thick all the way to the estuary, assuming that the River is 150ft. wide & 190 miles to the ocean. (**Violates Clean Water Act Section 401**)
- **Save future Klamath River water demands from the Scott R. and Shasta R.** by State and Federal Agencies to satisfy requirements proposed in the KBRA for Environmental Waters.
- **Preserve the sacred Shasta Nation Villages and Burial Sites** beneath the waters of Iron Gate and Copco Reservoirs.
- **Provide additional storage facilities and instream flows** which will enhance fisheries and benefit the Tribes, NGOs and fishing interests, and improve Klamath River water quality.
- **Eliminate increased electricity rates for On and Off Project irrigators and all ratepayers and provide substantial power rate reductions with the establishment of a PUD.**
- **Provide Governmental Agencies common sense and professionally supported and engineered alternatives.**

My final recommendation as a Professional Engineer, if overseeing the Lower Klamath Project, which is very controversial, does not have local public support, and is flawed with questionable environmental documents, is to implement the following study to justify that Dam Removals:

If Dam Removals are selected as the preferred alternative and prior to any decommissioning or work on Dam Removals, perform the following: 5-year study:

1. Remove plugs on bypass tunnels to allow maximum flows through the existing tunnels.
2. Plan controlled plug removals to sequence with anadromos fish runs and weather conditions.
3. Perform a 5yr. study to determine if anadromous fish can or will utilize the upper Klamath Basin tributaries and their juveniles return to the estuary.
4. Study the impacts of sediment release down the K. River.
5. Study the impacts on the Iron Gate Fish Hatchery.
6. Study the impacts on ground water recharge.
7. Study the impacts on the Upper Klamath Basin agricultural water availability without Dam storage for minimum flow releases.
8. Study the impacts from the release of lake aquatic life to the K. River.
9. Study the impacts on lake fishing and recreation.

Note:

During this study period the Dams will provide flood control and the Fish Hatchery can be shut down to study the benefits of the Hatchery.

After the study period, when it is determined that anadromous fish habitat does not exist in the Upper K. Basin and other studies support retaining the Dams and hatchery, the bypass tunnels can be re-plugged and the Hydro-electric Facilities can be put back into normal operation.

Respectfully submitted, 2/25/2019

Jerry L. Bacigalupi

Jerry L Bacigalupi

Professional Civil Engineer, **JLB Construction & Engineering**

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Do not allow politics to TRUMP common sense.

Attachment #1:

To:

Gordon Leppig
California Department of Fish & Game
619 Second Street
Eureka, CA 95501

Ms. Elizabeth Vasquez
Bureau of Reclamation
2800 Cottage Way
Sacramento, CA 95825

June 13, 2013

From: Jerry L. Bacigalupi
Professional Engineer (P.E.)
P.O. Box 309
Montague, CA. 96064 (530) 459-5546 (916) 768-5015c

Dear Ms. Vasquez and Mr. Leppig:

Following are my comments to the **Klamath Facilities Removal Final EIS/EIR** (dated December 2012, but not mailed to respondents until 04/05/13)

As a citizen and Professional Engineer I am disappointed at the professional integrity within the DOI and CDFG. In reviewing several of the EIS/EIR comments submitted to the DOI and the DOI responses, I am disturbed at the DOI's lack of professional knowledge, goal oriented responses, and spin **supporting dam removals**.

After reviewing my comments and the DOI responses, I feel that my comments were not addressed. **I would make the same comments again.** The point being that the EIR/EIS has not been properly completed because the **EIS/EIR process is flawed** with responses that lack professional and scientific integrity, and with probable misconduct, all supporting the KBRA / KHSA (Dam Removals). In addition viable alternatives with dams in place were not studied, and the facts that the Upper Basin Water Wars and the Klamath Hydro-Electric Facilities are not physically related. The KBRA & KHSA improperly mandate stakeholders agreeing to Hydro- Electric Dam Facility removals.

In particular I would like to address my highlighted comment #5 and DOI response (**Comment 6 Hydrology**). To quote my comment: _____ **"In Chapter 3 - 3.6 Flood Hydrology of the EIR/EIS, data provided does not accurately represent current independent scientific or historical data. The data and conclusions presented was data that supports the Lead Agencies' desired outcomes and not supported by recognized engineering practices.**

Table 3.6-5 shows the 100-yr flows at Keno at 11,800cfs and Iron Gate at 31,460cfs. **A statistical analysis using data from Calif. Division of Dam Safety shows 100-yr. flows for Keno at 12,000cfs and Iron Gate at 30,600cfs. This is a close check, however;** Table 3.6-9 shows a 6.9% reduction in the flood attenuation of Iron Gate and COPCO Reservoirs combined.

This is in substantial disagreement with an engineered independent evaluation. Using the 1964 flood data for Gage 11516530 (29,400cfs peak flow at Iron Gate) an inflow out flow hydrograph combining both reservoirs shows a 22% reduction in peak flow and a 9 hour delay in peak discharge.

Table 3.6-9, the 100 yr. flood plain below Iron Gate Reservoir, and the write up needs to be recalculated and re-evaluated using properly engineered procedures for inflow/outflow analysis **based on historic hydrographs to show that the Dams Provide Critical Flood Protection."**

The DOI Response to my comment :

GP_LT_1230_1220-6 Master Response HYDG-1 Flood Protection. an analysis of the 1964 flood documented in a memo delivered to Siskiyou County (Bacigalupi, 2010). In this analysis, it was concluded that Iron Gate Dam and Copco Dam reduce the 100-yr flood by 22 percent. However, a time step of 3 hours was used in Bacigalupi (2010), which is too large and this caused **errors** in the results. If the same analysis was performed with a time step of 15 minutes or smaller, the flood attenuation effects would be very similar to Reclamation (2D12b) and find that the attenuation of the 100-yr is near 7 percent as stated in the Draft EIS/EIR.

The comment author refers to

My comment to the DOI response:

The same analysis was performed using the same computerized program, same data, and varying the time steps of the inflow outflow hydrograph as suggested by the DOI. The results are as follows:

Time Step Hr.	Inflow cfs	Outflow cfs	Peak Flow Delay Hr.	Increase In Flow With Out Dams %	Remarks
3	35,700	29,400	9	22	Original
1	36,800	29,400	10	25	1Hr. Steps
.25(15min.)	37,250	29,400	10.25	26.7	15min. Steps

The above results show that the DOI makes rudimentary conclusion and statements that are in **error** and that have definite impacts on the decision of dam removals.

The Dams do provide substantial (26.7%) flood protection. Table 3.6-9, the 100yr. flood plain and write up needs to be revised.

The EIR/EIS process has not been completed. The EIS/EIR is flawed with responses that are in error, and lack professional and scientific integrity, all supporting the KBRA / KHSa (Dam Removals).

Respectfully submitted:

Jerry L. Bacigalupi

06/13/13

Attachment #2: JLB CONSTRUCTION AND ENGINEERING

Ms. Elizabeth Vasquez
Bureau of Reclamation
2800 Cottage Way
Sacramento, CA. 95825

Nov. 18, 2011 Jerry L. Bacigalupi, P.E.
P.O. Box 309
Montague, CA 96064

530 459 5546 916 768 5015

Gordon Leppig
California Department of Fish & Game
619 Second Street
Eureka, CA 95501

Dear Ms. Vasquez and Mr. Leppig:

The following are comments to the **Klamath Facilities Removal, Public Draft, EIS/EIR**

1. The DOI and DFG are improperly committed to dam removal such that they will not and cannot consider feasible alternatives and mitigation measures because they have already committed to the KBRA and KHSA settlement agreements which will become invalid if dams are not removed.

The California Supreme Court in *Save Tara v. City of West Hollywood* (2008) 45 Cal.4th 116 (“*Save Tara*”) cautioned lead agencies that CEQA compliance should occur before committing to a particular project so that environmental review does not devolve into a *post hoc* rationalization of a decision already made. “A fundamental purpose of an EIR is to provide decision makers with information they can use in deciding *whether* to approve a proposed project, not to inform them of the environmental effects of projects that they have already approved.” (*Laurel Heights Improvement Assoc. v. Regents of the University of California* (1988) 47 Cal.3d 376, 394 [emphasis in original]). Accordingly, “before conducting CEQA review, agencies must not ‘take any action’ that significantly furthers a project ‘in any manner that forecloses alternatives or mitigation measures that would ordinarily be of CEQA review of that public project.’” (*Save Tara, supra*, 45 Cal.4th at 138).

Page ES-17 states “This EIR/EIS is being prepared in compliance with NEPA and CEQA.” This Statement is intentionally misleading since these actions were reached in secret meetings, with a pre-determined out-come as expressed by the Secretary of the Interior in his speech to the Commonwealth Club in San Francisco, California on September 9, 2011 (prior to the comment period for this document).

2. The Environmental Impact Report/Environmental Impact Statement (EIR/EIS) fails to follow the law as required by the National Environmental Policy Act of 1969 - (Pub. L. 91-190, 42 U.S.C. 4321-4347 January 1, 1970, as amended, and Pub. L. 94-52, July 3, 1975, Pub. L. 94-83, August 9, 1975, and Pub. L. 97-258, sec. 4(b), Sept. 13, 1982).

Title 42 of the United States Code 4331, Section 101 (b) states: Section 101 (42 USC 4331) states:
" In order to carry out the policy set forth in this Act, it is the continuing responsibility of the Federal Government to use all practicable means, consistent with other essential considerations of national policy, to improve and **coordinate** federal plans, functions, programs, and resources to the end that **THE NATION MAY:**

1. Fulfill the responsibilities of each generation as trustee of the environment to succeeding generations;
2. Assure for all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings;
3. Attain the widest range of beneficial uses of the environment without degradation, risk to health and safety, or other undesirable and unintended consequences;
4. Preserve important historic, cultural, and natural aspects of our national heritage, and maintain, wherever possible, an environment that supports diversity, and variety of individual choices;

5. Achieve a balance between population and resource which will permit high standards of living and a wide sharing of life's amenities;
6. Enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources."

3. The "Lead Agencies", as defined in the EIR/EIS, have been and continue to violate applicable existing federal, state, and local laws and regulations.

The planning and zoning laws of the State of California, starting with Section 65000 of the Government Code, require that all lands be zoned appropriately with regard to their highest and best uses. The Siskiyou County Planning and Zoning Laws and the Land Use Element of the General Plan is required to designate the location and permitted uses of the land within and adjacent to these dam and reservoir areas, and identify **lands downstream which are subject to flooding**. The Conservation Element of the General Plan provides for the conservation, development, and utilization of natural resources including water and its **hydraulic forces, flood management, water conservation, and the prevention, control and correction of soil erosion**.

Recent legislation passed in 2007, AB 70 (Ch. 367) and AB 162 (Ch. 369) expands the requirement for Cities and Counties to incorporate **flood control and** management and provides that a city or county may be required to contribute its fair and reasonable share of the property damage caused by flooding, including State and Federal Government caused flooding by dam removal. As such, it is a critical legal and budgetary matter of the local city and county governing bodies to not only be included in this process, but to also weigh in on the final decisions in this matter. The Siskiyou County Board of Supervisors did not sign on to the KHSA for such matters and the Lead Agencies have failed to consider this and other important matters raised by this and other stakeholders.

The State Planning and Zoning Laws gave authority to the local governing body The Siskiyou County Board of Supervisors for controlling land uses and to protect resources and property rights.

The Secretary of the Interior does not have proper legal jurisdiction over private land use in Siskiyou County to make a determination to remove 4 privately owned dams with out coordination and approvals by Siskiyou County.

4. The Lead Agencies and this EIR/EIS have failed to identify and properly weigh and consider the benefits of environmentally preferable and superior alternatives per CEQA.

Per EIR/EIS section ES.7.3 Environmentally Preferable/Superior Alternative: "NEPA requires the Lead Agency to identify the alternative or alternatives that are environmentally preferable in the Record of Decision (ROD) (40 CFR Part 1505.2(b)). **The environmentally preferable alternative generally refers to the alternative that would result in the fewest adverse effects to the biological and physical environment. It is also the alternative that would best protect, preserve, and enhance historic, cultural, and natural resources.** Although this alternative must be identified in the ROD, it need not be selected for implementation."

Section 15126.6(e)(2) of the CEQA Guidelines requires agencies to identify the environmentally superior alternative in a draft EIR. If the No Project Alternative is the environmentally superior alternative, an additional environmentally superior alternative must be identified among the other alternatives.

The following environmentally preferable and superior alternative was not properly considered; Alternative 3 (Partial Facilities Removal of Four Dams) has been identified as the environmentally superior alternative.

Alternative 3 would provide similar long-term benefits when compared with Alternative 2, but would reduce short-term impacts because it involves less construction. Alternative 3 would result in superior long-term beneficial environmental effects. **In summary, Alternative 3 is considered the environmentally superior alternative among all the alternatives because it provides long-term beneficial environmental effects, while reducing some of the short-term significant effects of the Proposed Action (Alternative 2)."**

The following environmentally preferable and superior alternative was not properly considered; Alternative 11 (Fish Bypass: Alternative Tunnel Route) on page 4-11 (4.2.11) clearly states that it does not meet consideration because it is not consistent with the requirements of the KBRA and KHSA as it would not remove any of the four dams. Under NEPA and CEQA **THIS ALTERNATIVE MUST BE RECONSIDERED and must not be dependent on the predetermined, undisclosed KBRA/KHSA agreements.**

Alternative 11 (Fish Bypass: Alternative Tunnel Route) is identified by Siskiyou County as the “environmentally preferable alternative that would result in a cost of 1/6 the cost of installing fish ladders, 5% the cost of dam removals, and the fewest adverse effects to the biological and physical environment.” THIS ALTERNATIVE IS SUPPORTED BY 80% OF THE COUNTY AND MUST BE RE-CONSIDERED under CEQA and NEPA requirements not dependent on secrete KBRA/KHSA agreements.

5. In Chapter 3 - 3.6 Flood Hydrology of the EIR/EIS, data provided does not accurately represent current independent scientific or historical data. The data chosen for the study was that the data that supports the Lead Agencies desired outcomes.

Table 3.6-5 shows the 100-yr flows at Keno at 11,800cfs and Iron Gate at 31,460cfs. **However, a statistical analysis using data from 1961 provides flows at Keno at 12,000cfs and Iron Gate at 30,600cfs (close).**

Table 3.6-9 shows a 6.9% reduction in the flood attenuation of Iron Gate and Copco Reservoirs combined. **This is in substantial disagreement with an engineered independent evaluation.** By using the 1964 flood data for Gage 11516530 and a t/c in of 24 hr, t/c out of 48 hr. an inflow out flow hydrograph shows a 22% reduction in peak flow and a 9 hour delay in peak discharge.

Table 3.6-5, the 100 yr. flood plain below Iron Gate Reservoir, and the write up needs to be revised to **show that the Dams Provide Critical Flood Protection.**

6. The EIR/EIS fails to weigh basic risks associated with Flood Hydrology.

The flood protection currently provided by the dams in place is notable. Without the dams much of the private property adjacent to the Lower Klamath River would be subject to severe flooding and erosion. Highway 96 may have to be relocated in several locations and many bridges may need to be replaced to provide the same level of service and protection that we currently enjoy.

The 1964 flood destroyed many bridges on the Lower Klamath and washed out much of Highway 96. All of the dams that are proposed for removal were in place during the 1964 flooding. All roadways and bridges were re-located above the calculated **Base Flood Elevation** considering all existing dams in place. DOI determined the existing floodplain by computing the 100 year flood and then mapping the extent of that floodplain on the existing topography. The existing floodplain may be different than that proposed by FEMA because it is based upon more current information.

DOI determined the 100-yr floodplain after dam removal. Based upon the most current inventory of structures downstream of Iron Gate Dam to Humbug Creek over 24 residences are within the existing 100 year flood plain. Less than 6 residences and other structures such as garages are outside of this flood plain, but may be put into the 100 year floodplain after removal of the dams. However, the final determination of the future 100-yr floodplain after dam removal will be made by FEMA. The purpose of the analysis was to estimate the costs to mitigate the increase in flood risk. The existing bridges are within the 100-year floodplain; however, these structures would need to be evaluated to determine if they would still maintain enough clearance to not be inundated by flooding. Not all of the structures that could be exposed to increased flooding risks are permanent.

7. The EIR/EIS Mitigation Measures downplay real risks presented and put the public and environment at severe risk. The EIR/EIS change to the 100-year floodplain inundation area downstream from Iron Gate Dam ‘less than significant.’ This conclusion is, at best, irresponsible. By definition, an increase in risk to one habitable structure or bridge is to be considered significant according to the significance criteria.

8. Statements made in the EIR/EIS about current dam conditions and impacts of removing the dams are unsupported and dishonest. These dams are in very good condition according to the Ca. Div. of Dam Safety. The primary benefits and reasons for building dams is for water conservation and management, clean energy production and flood control. For example;

The EIR/EIS states; *“removing the Four Facilities could reduce the risks associated with a dam failure.* The Four Facilities, collectively, store over 169,000 acre-feet of water when they are full. The dams are inspected regularly, and the probability for failure has been found to be low. However, if a dam failed, it could inundate a

portion of the downstream watershed (Siskiyou County website 2011). **Removing the Four Facilities would eliminate the potential for dam failure and subsequent flood damages.** Therefore, eliminating the dam failure risk associated with the Four Facilities would have a beneficial effect on flood hydrology.”

The EIR/EIS states; **“Therefore, it is anticipated that implementation of the Emergency Response Plan would generate no change in flood risk when compared to existing conditions, although it would likely help to reduce damage to property or loss of life due to a flood event which would be a beneficial effect to flood risks. Implementing the Emergency Response Plan will likely require the analysis of changes to flood risks in future environmental compliance investigations as appropriate.”**

9. The EIR/EIS Mitigation Measures downplay real risks presented, offer inadequate mitigation measures and put the public and environment at severe risk **For example;**

Per EIR/EIS section 3.6.4.4 Mitigation Measures, Mitigation Measure H-1: “Prior to dam removal, the DRE will inform the National Weather Service, River Forecast Center, of a planned major hydraulic change (removal of four dams) to the Klamath River that could potentially affect the timing and magnitude of flooding below Iron Gate. **The River Forecast Center is the federal agency that provides official public warning of floods.** As needed, the River Forecast Center would update their hydrologic model of the Klamath River to incorporate these hydraulic changes so that changes to the timing and magnitude of flood peaks would be included in their forecasts. As currently occurs, flood forecasts and flood warnings would be publicly posted by the River Forecast Center for use by federal, state, county, tribal, and local agencies, as well as the public, so timely decisions regarding evacuation or emergency response could be made. Prior to dam removal, the DRE will inform FEMA of a planned major hydraulic change to the Klamath River that could affect the 100-year flood plain. The DRE will ensure recent hydrologic/hydraulic modeling, and updates to the land elevation mapping, will be provided to FEMA so they can update their 100-year flood plain maps downstream of Iron Gate Dam (as needed), so flood risks (real-time and long-term) can be evaluated and responded to by agencies, the private sector, and the public.

10. The EIR/EIS Mitigation Measures display the agencies force of will over residents, fail to offer adequate mitigation plans to the potentially affected inhabitants and put the public and environment at severe risk **For example;**

Mitigation Measure H-2: The DRE will work with willing landowners to move or relocate permanent, legally established, permitted, habitable structures in place before dam removal. The DRE will move or elevate structures where feasible that could be affected by changes to the 100-year flood inundation area as a result of the removal of the Four Facilities.

Effectiveness of Mitigation in Reducing Consequence These mitigation measures will be effective as they will identify the extent of the increased flood risks and take measures which will reduce the risks for loss, injury or death from flooding.

Agency Responsible for Mitigation Implementation. The DRE would be responsible for implementing mitigation measures H-1 and H-2.

These are not “Mitigation Measures”... a telephone call or radio broadcast to tell you that you are about to be flooded. As stated above, the EIR/EIS fails to present and weigh sound scientific data and make conclusions that are in the best interest of the environment, community and lives of humans and species downstream of the dams.

11. The sediment removal proposal is a scientific impossibility. The Lead Agencies failed to demonstrate adequate scientific knowledge to perform and make scientifically sound decisions.

Per the EIR/EIS; 3.2 Sediment Removal: Dam removal would release some of the accumulated sediments downstream. The Proposed Action includes the use of erosion from river flows to flush the sediment behind the dams downstream during facility removal. Reservoir drawdown would focus on the wet season in order to flush the sediment downstream with the natural seasonal high flows. Modeling studies indicate that

drawdown would erode and flush 41 to 65 percent of the stored sediment downstream (DOI 2011). The initial drawdown would begin slowly, to minimize riverbank erosion, with the rate increasing as water levels drop to maximize the amount of sediment flushed down stream. Most of the sediment remaining on the riverbank slopes would stabilize and would not erode downstream in subsequent years.

As an engineer of dams and bridges, formerly with Cal Trans, I can attest that the standing water behind the dam will not transport sediments to the breached area of the dam during drawdown. The only sediment transport will be within the remaining river after the reservoirs are drained.

12. The EIR/EIS fails to consider logical scientifically supported impacts and mitigation measures related to the removal the sedimentation during and after dam removal. This failure leads to an unnecessary risks presented to the public and the environment.

Per the EIR/EIS section 3.2.1 Option: Sediment Removal, “If analysis indicates that the release of sediment could result in significant effects, the EIS/EIR may include consideration of dredging sediments out of the reservoirs before removing the dams if this measure is determined to be feasible. Dredging would focus on the area within the new river area; sediment remaining above the new stream level would only require removal if the slopes would not be stable.”

Surveys to date have shown water content in the sediments behind the reservoir to average 80 percent by volume (Eilers and Gubala 2003). Once dredging began, the spoils would be pumped to a detention area near the reservoir for the sediments to dry. Dredging and the mechanical removal of sediment from the reservoirs would require equipment in addition to that needed for dam removal. This additional equipment would include barges, dredges, and pumps.

Storing the spoils after removal from the reservoirs would require an area of sufficient size to allow the sediment to be spread and dried

This option, being the only viable option to mitigate sediment impacts upon dam removals is not on the table because of predetermined conclusions that funding would not be approved or available to support actual projected cost. This is the reason that Alternative 3 (Partial removal of 4 dams) was selected as the:

Initial sediment study: 20.4 million cubic yards with 84% washing down river

Recent sediment analysis: 13.1 million cubic yards with 41 to 65% washing down river

Analyses: Sediment depth below Iron Gate to the ocean assuming a river bottom width of 150' and a length of 190 miles Initial sediment study: 3.1 feet depth Recent sediment analysis: 1.0 to 1.5 feet depth

The recent study appears to be in line with recent attempts to reduce cost in support to dam removals with limited funding. The State Water Quality Control Board and Department of Fish and Game, and the U.S. Corps of Engineers regulate all private construction projects involving disturbed soil, within a drainage watercourse. **How could public agencies (for and by the people), even consider such an irresponsible action?**

13. The Lead Agencies failed to present a truthful and logical cost/benefit analysis for the Secretary or any reviewer to make a logical determination. **The cost proposals for all the alternatives are either intentionally omitted or were not conducted. How could you make a decision on a project without accurate detailed cost estimates?**

CONCLUSION:

This document is riddled with bias conclusions and inappropriate mitigation measures which are not supported by fact, respected science or properly engineered studies. **This document was prepared supporting a predetermined goal (Removing 4 dams on the Klamath River) and needs major revisions to comply with NEPA and CEQA regulations.**

Thank you for considering my opinions.
Respectfully submitted,

Jerry L. Bacigalupi P.E. (RCE 18063)