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May 26, 2009

Ms. Kimberly D. Bose
Federal Energy Regulatory Commission
888 First Street North East
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McCloud-Pit Hydroelectric Project, FERC No. 2106-047
Response to PG&E's February 2009 Draft Application for New License

Dear Secretary Bose:

This document is in response to Pacific Gas & Electric Company's (PG&E or Licensee) February 24, 2009, filing of the McCloud-Pit Project (FERC #2106) "Draft Application for New License" (DLA). This response is in compliance with the Integrated Licensing Process regulations at 18 Code of Federal Regulations Part 5 §5.16 "Preliminary Licensing Proposal".

American Whitewater has been involved in the relicensing of the McCloud/Pit project since it began in 2006. We have a clear interest in this valued resource and have been a consistent participant in this relicensing. We appreciate the opportunity to provide these comments.

Volume 2

Exhibit E, Environmental Exhibit

3.7.1.1 Affected Environment

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In the second paragraph, the Licensee states that "The Licensee evaluated recreational use at the USFS's Ash Camp and Ah-Di-Na campgrounds to determine if this use has a Project nexus. Study results, which are discussed in more detail in the section below, indicated that Lower McCloud River users are primarily anglers. These users are notably different from McCloud Reservoir users in that they are predominantly anglers who also fish other rivers and streams in the general region rather than flat water. Consequently, this recreation use on the Lower McCloud River is not Project-related."

We are baffled by the assertion in the DLA that there is no project nexus to recreation below McCloud Dam. The rational states that because this area is predominately used by anglers that also fish other rivers, their use here is somehow not related to the project. The DLA seems to contradict itself later on in the same page where the licensee states, "Angling and boating occur along the Lower McCloud River and the quality of these

activities depends on the quantity of flow within the river. The Licensee investigated flow relationships for both angling and boating opportunities. Clearly the licensee conducted these studies, which were approved by FERC, because there was a nexus between these activities and the operation of the project.

Page 3-182:
In the first paragraph, the Licensee states "In general, the standard flow range for both kayaks and rafts on the upper segment is between 700 and about 1,000 cfs depending on the boat type (optimal 800 cfs for both boat types) and between about 600 and 1,500 cfs depending on the boat type on the lower segment (optimal between 800 and 900 cfs depending on the boat type)." It is important to recognize that accretion flows will vary greatly depending on season and water year type. Because this flow study was conducted in a dry water year, accretion flows were minimal. Our review of the hydrology suggests that in a typical spring, quality whitewater boating could begin with flows as low as 300 cfs at the McCloud Dam. Flows of 500 cfs at the Dam could provide standard boating with sufficient accretion flows.

Page 3-186
In the third paragraph, the Licensee states "survey responses indicate, that compared to other rivers, the Lower McCloud River is between 'excellent' and 'among the very best' (the two highest ratings on the 5-point scale used) with its length of run, up to 24 river miles, fine scenery, solitude, excellent water clarity, remote and undeveloped character, and high quality Class III and IV whitewater as outstanding features." Even this glowing review understates that the McCloud River provides a boating opportunity that is unique in California. The Class II /IV character of this run combined with the roadless wilderness nature make the McCloud River an ideal run for intermediate to advanced paddlers. Most runs in California that are of this length, 25 miles, are typically much higher gradient and too difficult for the average paddler.

Figure1. The Narrows on the Lower McCloud.

Page 3-186
In the third paragraph
"Overall, review of hydrological data under past Project operations indicate that between 1974 and 2006, flows suitable for boating opportunities (180 to 3,000 cfs as measured at Ah-Di-Na gage (MC-1)) were available in about 40 percent of the years (13 of 33) with an average of 32 days with flows in the whitewater (500 to 3,000 cfs as measured at Ah-Di-Na gage) range (16 of those days in the standard whitewater range [700 to 1,500 cfs as measured at Ah-Di-Na gage]).

We would like to refer FERC staff to TM-24, page 25, which correctly states that,

"Averages over the period of record oversimplify the actual number of whitewater boating days because there are many years with no whitewater flows (and other years have more days than the average)."

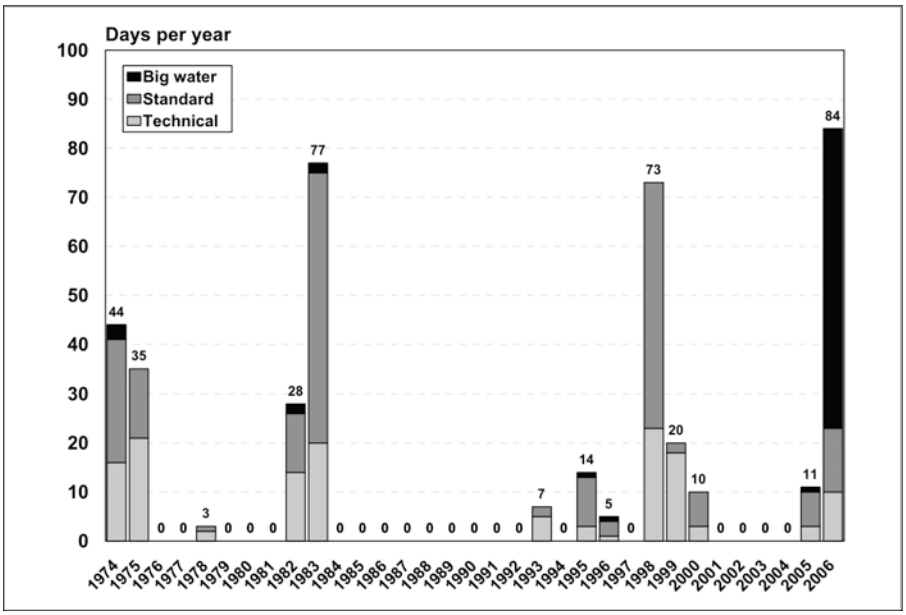

Figure 7. Number of days in whitewater boating ranges in individual years, 1974–2006

Figure 7 from the report illustrates this point by showing that in the eight years from 1984 to 1992 there was no whitewater boating opportunity on the McCloud. Having ample opportunity in the few wet years in no way makes up for this long period of lost opportunity. Even in these wet years there is still no boating opportunity that occurs June through September, the preferred months for boating specified in the report. It is also important to note that much of the existing opportunity occurs in the winter when there is snow that blocks access to the put-in locations at Ah Di Nah and McCloud Dam.

Foothill Yellow-Legged Frog (FYLF)
Page 3-113

In the second paragraph, the Licensee states that

Spring/Summer Flow Fluctuations—Substantial fluctuations in spring and summer flows during oviposition and tadpole rearing seasons may cause FYLF mortality by altering the structure of physical breeding habitat (see Volume III, TM-29). Then in the third paragraph the Licensee states further "Flows in Lower McCloud River are typically variable in spring, and steady in summer (see Volume III, TM-46). Particularly in spring of wetter years, the Lower McCloud River can have highly variable and high flows because McCloud Reservoir often spills through the end of May and sometimes into June.

Unfortunately, the Licensee provides no analysis or discussion of potential impact from the highly variable flows described above. To illustrate how large of an impact the project has on rates of flow change, particularly rapid reductions in flow, we point FERC staff to the group 5 parameters of the Indicators of Hydraulic Alteration (IHA) analysis completed by PG&E. This section of the IHA reports the rates of change from high flow, small flood, and large flood events. The results clearly show a large impact from the

project. While both rise and fall rates, (the average rates at which river flows drop from one day to the next) have increased with the project in place, the most dramatic impact has been on flow recession. The analysis shows that fall rates have increased 278% in high flow events, 750% during small flood events and 1361% during large flood events.

Parameter	Pre	Post	Change
High flow rise rate	348.3	853.3	144.99%
High flow fall rate	-157.4	-595.5	278.34%
Small Flood peak	6085	5920	-2.71%
Small Flood rise rate	706.4	1727	144.48%
Small Flood fall rate	-129.1	-1098	750.50%
Large flood peak	17020	19880	16.80%
Large flood rise rate	1483	5870	295.82%
Large flood fall rate	-147.3	-2153	1361.64%

Figure 2. IHA results Ah-Di-Nah.

Rapid fall rates have been shown to have clear impact to foothill yellow-legged frogs (FYLF). Because FYLF breed in the spring when spill flows can occur. On the North Fork Feather River in 2006 50%, over forty, of the year's egg masses were stranded when flows were dropped abruptly during the breeding season. Frogs have evolved to breed during the recession limb of the snowmelt hydrograph. In unimpaired systems, flows during this period provide a gradual, predictable, rate of recession that frogs have evolved with (Yarnell et al, in review. 2009).

The FYLF surveys conducted in 2008 as reported in Technical Memo 29 (TM-29), Second *Year Foothill Yellow-legged Frog Visual Encounter Surveys and Breeding Habitat Assessment in the Lower McCloud River*, illustrate the potential for impact to FYLF from project induced flow fluctuations. The first egg masses were located on May 8th, which happened to coincide with elevated flows for the instream flow studies. Egg mass B from site 120, was estimated to have been laid between the 5th and the 7th of May. The egg mass was found at a depth of .33 meters. The flows during this period were between 700 cfs on the 5th to just over 1000 cfs on the 7th. On the next survey, which occurred on the 15th, the flows had dropped to 638 cfs. At this flow the egg mass was found to be in only .09 meters of water. While this particular egg mass was not stranded and desiccated, it was only 3 inches below the water surface by May 27th, when the last survey was conducted. The report is unclear about the disposition of several of the other egg masses. At site 120, egg mass C was not located on the later survey. The same is true of egg mass C at site 122. It is possible that these egg masses were either desiccated or was washed away by the spill flow event that occurred on the 19th of May. On page A1-80 of TM-29, a picture of stranded egg mass D is shown but there is no description as to why the egg mass was stranded. Table 4, showing the egg mass survey reports have been included here for convenience.

Table 4. FYLF egg mass data from the Lower McCloud River, 2008

Site	Date	Visit No.[a]	Egg Group[b]	No. of Egg Masses	Water Temp at Egg Mass (°C)	Main Water Temp (°C)	Gosner Stage[c]	Egg Condition	Distance to Shore (m)	Depth of Egg Mass (m)	Total Water Depth (m)	Mid-column Velocity (m/s)	Velocity at Egg Mass (m/s)	Attachment Substrate
119	5/27/2008	1	A	1	11.5	11	18	mostly brown/green (silt >50%)	3.3	0.34	0.44	0.01	0.01	cobble
120	5/8/2008	--	A	1	12	11.5	19	partially brown/green (silted <50%)	NA	NA	NA	NA	NA	not attached
	5/8/2008	--	B	1	11.5	11.5	19	clear/bluish, compact (fresh)	2.3	0.33	0.55	0.01	0.02	boulder
	5/15/2008	--	B	1	14.5	14.5	21	mostly brown/green (silt >50%)	1.2	0.09	0.19	0.02	0.01	boulder
	5/15/2008	--	C	1	14.5	14.5	20	mostly brown/green (silt >50%)	3	0.27	0.33	0.02	0.01	boulder
	5/15/2008	--	D	1	14.5	14.5	19	clear/bluish, compact (fresh)	3.2	0.23	0.31	0.03	0.02	boulder
	5/15/2008	--	E	1	14.5	14.5	19	clear/bluish, compact (fresh)	3.2	0.29	0.33	0.03	0.01	boulder
	5/15/2008	--	F	1	14.5	14.5	19	clear/bluish, compact (fresh)	1.3	0.29	0.40	0.03	0.01	boulder

Site	Date	Visit No.[a]	Egg Group[b]	No. of Egg Masses	Water Temp at Egg Mass (°C)	Main Water Temp (°C)	Gosner Stage[c]	Egg Condition	Distance to Shore (m)	Depth of Egg Mass (m)	Total Water Depth (m)	Mid-column Velocity (m/s)	Velocity at Egg Mass (m/s)	Attachment Substrate
	5/27/2008	1	B	1	12	11.5	24	mature (not compact)	1.5	0.07	0.17	0.01	0.01	boulder
	5/27/2008	1	E	1	12	11.5	21	partially brown/green (silted <50%)	3.1	0.25	0.32	0.01	0.03	boulder
	5/27/2008	1	F	1	12	11.5	19	partially hatched	1.3	0.18	0.40	0.04	0.01	boulder
122	5/28/2008	1	A/B	2	11	11	19	clear/bluish, compact (fresh)	5	0.25	0.45	0.11	0.01	boulder
	5/28/2008	1	C	1	11	11	10	clear/bluish, compact (fresh)	0	0.10	0.20	0	0.01	bedrock
	5/28/2008	1	D	1	11	11	NA	partially brown/green (silted <50%)	0	NA	NA	NA	NA	not attached
	6/10/2008	2	A	1	15	13.5	18	mostly brown/green (silt >50%)	5	0.15	0.39	0.2	0.06	boulder
	6/10/2008	2	B	1	15	13.5	NA	white/opaque (fungal)	5	0.17	0.39	0.2	0.05	boulder
140	5/8/2008	--	A	1	12.5	12.5	11	clear/bluish, compact (fresh)	20	0.39	0.51	0.04	0.06	boulder

It is possible that these egg masses could have been predated, as the report points out. In fact, the report sites a number of potential limiting factors for FYLF on the

McCloud including, predation, cold water and tributary proximity. We feel that it is also clear that project induced flow changes could also be severely limiting FYLF survival on the McCloud River. The flows changes in 2008, roughly 1000 cfs to 500 cfs in 20 days, appear to be at the limit of what egg masses can survive with out the risk of desiccation. A review of the hydrologic record shows that this threshold was met or exceeded in 12 of the 32 years of record, 38 % of the time, at the MC- 5 gauge above Lake Shasta. These rates of change become greater the closer one gets to McCloud Dam. The IHA from the MC-5 shows that fall rates from high pulse events are 264 cfs per day pre-project as compared to 443 cfs per day, a 78% increase, where as the fall rates at Ah-Di Na increased 278%. It is quite possible that this is the primary reason why no FYLF were found in the upper part of the river, below McCloud Dam.

Summary of FYLF Limiting Factors
Page 3-116
In the second paragraph, the Licensee states that "The two factors most likely (perhaps synergistically) limiting FYLF distribution and abundance in the Project Area are stream temperature (temperatures being too cold in most of the Lower McCloud River) and tributary proximity and density (tributaries are too far from otherwise suitable breeding habitat upstream of RM 6)".

We would like to suggest, project flow as another potential limiting factor. The limiting factors listed by the Licensee completely ignore the fact that the project has increased recession rates from 280% to 1300% from high flow events. It is clear that flow rate changes of this magnitude can strand and desiccate egg masses.

Increases in the Extent of Riparian Vegetation
Page 3-151
In the fourth paragraph, the Licensee states that "with increasing numbers of younger trees becoming established and surviving at lower relative elevations close to the channel, particularly at relative elevations below the current 1.4-year recurrence interval flood," the Licensee concludes "These findings suggest that the Project-related decrease in magnitude of scouring annual peak flows has made possible the recruitment and survival of white alders at lower elevations; this would not have occurred under pre-Project flow conditions." We agree.

Technical Memo 65, *Assess Potential Ongoing Project Effects on Riparian Vegetation Community Types in the Project Area,* points out the effect that the project has had on riparian vegetation. On page 30 the report describes how low flows with reduced inundation duration and flood intervals have changed vegetation in and near the channel.

"Thus, under post-Project flows, species such as alder and dogwood can become established in the flatter area below this slope break; but under pre-Project flow conditions, these species are forced out of the relatively broad channel and onto the steeper slope, where there is less available habitat."

During the recreation flow study American Whitewater took photos to document this phenomenon. This type of riparian encroachment was noted on virtually every cobble bar upstream of Squaw Valley Creek. The Photos in figure 3 show several of these bars that have become inundated with vegetation.

Figure 3. Bar Vegetation, Flow 600 cfs.

Having open cobble bars are important for many riverine species (Yarnell et al, in review. 2009). Keeping vegetation out of the river channel is very important for recreation interests as well. Anglers are forced out into the channel when there is no margin between the low flow wetted perimeter and the vegetated bank. Whitewater boaters are also impacted as vegetation begins to clog route options in the channel. Maintaining the river channel is clearly a critical component of keeping the McCloud River in good condition.

Preliminary Proposed PM&E
Page 3-231
American Whitewater feels that the License Application is clearly deficient in meeting the needs of whitewater recreation because there is no recommendation to improve flows for whitewater recreation or to provide access to the limited whitewater opportunities that do occur when the project spills. Most rivers in California are dependent on snowmelt runoff for flows. These flows typically taper off in the late spring and early summer. The McCloud, being a spring fed system, has high flows throughout the summer. The unimpaired hydrology shows that the McCloud River would have had flows in the optimal boating range all summer even in the driest of years. The diversion of high summer flows out of the McCloud River cause an ongoing cumulative impact to whitewater recreation. These substantial impacts from the project must be mitigated if a new license is issued for this project.

Recommendations
American Whitewater recommends that developing a flow regime that protects frogs, maintains the river channel by keeping it clear of vegetation, and provides for whitewater recreation opportunities, can all be achieved by emulating the natural recession limb of the snowmelt hydrograph. FERC recently approved a new flow schedule for the Rock Creek Cresta FERC Project 1962 that was designed to achieve each of these goals. This new flow schedule will elevate flows in the spring and then gradually reduce the flows into the summer. We acknowledge that the fishery on the McCloud is in good condition and that there may be little need to change summer base flows on this project, however, there are other resources that are in need of improvement. It is our view, that if these resource areas are not addressed, the McCloud River could be negatively affected over the term of the next license. Hoping that these resource needs will be taken care of via random spill events that ignore the magnitude, duration, and timing, of the natural flow regime is an unacceptable and irresponsible method of managing this river system. The effects of climate change should compel us to prescribe flows that will protect this important resource without relying on the hope that future hydrology will look like the past.

Thank you for considering these comments respectfully submitted May 26, 2009.

Dave Steindorf
California Stewardship Director

CERTIFICATE OF SERVICE

I hereby certify that I have this 26th day of May 2009, served the foregoing document upon each person designated on the official service list compiled by the Secretary in this proceeding.

_____
Carla R. Miner
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