

## KRB STUDY REQUEST 2: *Water Quality Flows*

### RESPONSE TO COMMENTS

**EDISON:** *The remaining proposed study components are not necessary to complete the Application for New License. The run-of-river design of the Project does not contribute substances to the bypass reaches, thus any effects of the Project on water quality are generally limited to those caused by alterations to streamflow. For example, arsenic levels were previously measured in bypass reaches and found to reflect local watershed conditions, as the Project does not contribute arsenic to the watershed. Therefore, there is no Project nexus to include arsenic sampling as part of this relicensing. (PSP at 31.)*

**KRB:** Edison similarly states it does not contribute coliform bacteria to the dewatered reach (“the Project does not introduce fecal coliform into any reach”<sup>163</sup>), yet it has acceded in part to our request for the study of coliform bacteria. Arsenic is no different: simply because the project does not contribute this substance to the dewatered reach does not mean the project’s operations do not directly influence the concentrations of it in the reach. Dilution is an obvious, naturally occurring phenomenon, and by removing clean water from the dewatered reach, the project lessens the ability of that water to dilute the offending substance within the reach. Dilution through increased flows may meaningfully contribute to the health of this river and its human users. Edison offers no principled reason to test for bacteria but not for arsenic. Furthermore, Edison’s proposal for bacterial testing is inadequate for the purpose of learning to what degree increased flows can dilute these substances; Edison proposes to merely test for the presence of coliform bacteria, whereas this study proposes to test for the presence of coliform bacteria and arsenic and then test whether reasonably contemporaneous additional flows can successfully dilute them. For these reasons, we ask that the Commission direct Edison to implement our updated water quality study.

### KRB SR-2: WATER QUALITY FLOWS UPDATED STUDY PROPOSAL

*Criterion (1) – Describe the goals and objectives of each study proposal and the information to be obtained.*

This study would describe and evaluate the effects of project operations on water quality throughout the dewatered reach of the project — 16 miles of the Wild and Scenic North Fork Kern River — and to evaluate potential measures to alleviate those effects. This would be accomplished by evaluating the benefit to water quality in the dewatered reach

---

<sup>163</sup> PAD at 5-48

afforded by various flows released into it from Fairview Dam. The objectives of this study are to: (1) Document the existing water quality conditions of the dewatered reach; (2) Identify whether additional flows could improve those conditions; and (3) Evaluate the potential effects of water quality flow releases on other resources including recreational uses, aquatic resources, aesthetics, and project generation.

*Criterion (2) – If applicable, explain the relevant resource management goals of the agencies or Indian tribes with jurisdiction over the resource to be studied.*

Not applicable.

*Criterion (3) – if the requester is not a resource agency, explain any relevant public interest considerations in regards to the proposed study.*

The Commission is charged by the Federal Power Act to balance developmental values with nondevelopment values, including water quality values, in its formation of hydropower licenses in a manner best adapted for the affected resource, its user groups, and the goals of existing management plans. The United States Forest Service is charged with establishing conditions in hydropower licenses that are necessary for the public's utilization and enjoyment of the affected resource, including water quality.

The results of this study may further inform the managing agencies' goals by providing a separate, independent vector of analysis whose results might dovetail with agency recommendations, findings, or prescriptions on issues such as ecologically required flows, aesthetic flows, angler-enjoyable fish flows, and whitewater recreational flows.

The dewatered reach of the Wild and Scenic North Fork Kern River attracts vast members of the public throughout the year. It is the closest major perennial river to Southern California, and attracts vast numbers of visitors for camping, hiking, fishing, whitewater, and other forms of recreation throughout the year. It also has inherent outstanding values, and its water quality is to be conserved and enhanced under the Wild and Scenic River Act.<sup>164</sup> Water quality has the potential to affect public use and enjoyment of the dewatered reach, as well as public health. To fully evaluate the project's effect on water quality within the dewatered reach, and to balance potential enhancement opportunities with their costs, a controlled-flow water quality study is relevant to the public interest.

*Criterion (4) – Describe existing information concerning the subject of the study proposal, and the need for additional information.*

---

<sup>164</sup> 1994 USFS N&SFKR W&SR ROD&CMP at CMP 46-47

The PAD generally describes what is known about the water quality of the dewatered reach — primarily from studies conducted decades ago.<sup>165</sup> Specific to this study request, the PAD acknowledges that levels of (1) coliform bacteria and (2) arsenic have been measured at elevated levels.<sup>166</sup> Further, in 1995, USFS, NPS, and CDFW concluded there was an “environmental concern” about coliform bacteria levels in the dewatered reach.<sup>167</sup> Human usage of the campsites next to the river has only increased since then. The PAD does not describe the relationship between flows and these two particular water quality issues in the dewatered reach, nor does it cite any studies that characterize or evaluate that relationship. USFS has noted, “High coliform bacteria counts may be responsible for instances of low DO.”<sup>168</sup> In the last proceeding, the California State Water Resources Control Board “increased fecal coliform levels and potential solutions to the problem were flow-related.”<sup>169</sup> The Environmental Assessment concluded, “Flows in the bypassed reach can influence bacteria counts through dilution.”<sup>170</sup> Information on the water quality conditions collected during this study would inform a decision on whether additional releases from the project’s diversion dam would be warranted to improve the water quality of the dewatered reach. Even if they are always not successful at all times, additional flows are a tool managing agencies can use to address the problem.

*Criterion (5) – Explain any nexus between project operations and effects (direct, indirect, and/or cumulative) on the resource to be studied, and how the study results would inform the development of license requirements.*

The project presently takes the first 40-45 cfs of incoming flows at the Fairview diversion dam for minimum power generation, and then, after the seasonally varying minimum instream flow requirement is satisfied, takes the next 600 cfs. These conditions leave only 40-130 cfs, or less, in the dewatered reach when incoming flows are below 640 and 770 cfs, and decreases all incoming flows above 640 and 770 cfs by 600 cfs.

The PAD avers that project operations are not a source of coliform bacteria or arsenic, and that human activity accounts for the former and an unknown source below Fairview Dam accounts for the latter.<sup>171</sup> However, the PAD also concedes that project operations “influence coliform counts.”<sup>172</sup> Even if the source of elevated coliform or arsenic levels is not the project itself and lies below the project’s diversion dam, the quantity of

---

<sup>165</sup> PAD at 5-38 through 5-48

<sup>166</sup> PAD at 5-39, 5-48 & 5-49

<sup>167</sup> 1995 USFS NPS CDFW UKBFMP at V-3

<sup>168</sup> 1998 USFS NOD FONSI at Appendix E, 13

<sup>169</sup> 1996 EA at 26

<sup>170</sup> *Ibid.*

<sup>171</sup> PAD at 5-48 & 5-49

<sup>172</sup> PAD at 5-39

water diverted by the project may play a direct role in influencing the concentration levels of those substances. As our Supreme Court has observed, “water quantity is closely related to water quality.”<sup>173</sup> Increases in the amount of water flowing may dilute the concentration of a harmful or contaminant substance, as Edison has conceded elsewhere.<sup>174</sup> And again, the 1996 EA concluded that “Flows in the bypassed reach can influence bacteria counts through dilution.”<sup>175</sup> This effect is especially likely where the source of the contaminant is within the project affected area, and varying currents, eddies, and rapids have the potential to mix more heavily concentrated waters near the source(s) with less heavily concentrated waters. It is also true that the 1996 KR3 EA found that dilution could not satisfy EPA standards “at all times.” However, the current managing agencies may find that to be the perfect getting in the way of the good; further dilution may meaningfully contribute to the health of the river and its users at many more times than current conditions allow. Further, human activity along the dewatered reach has increased since the prior proceeding, and that may make remedial measures from the flows this resource is capable of delivering worthwhile. Finally, the SWRCB did not propose dilution in the last proceeding; it may in this one.

*Criterion (6) – Explain how any proposed study methodology (including any preferred data collection and analysis techniques, or objectively quantified information, and a schedule including appropriate field season(s) and the duration) is consistent with generally accepted practice in the scientific community or, as appropriate, considers relevant tribal values and knowledge.*

The study should proceed in three phases. It should first employ a desktop analysis to determine what sites in the dewatered reach, at what times of year and at what flow levels are most likely to return elevated test results for bacterial or metalloid concentrations, given EPA and SWRCB guidance on acceptable contaminant levels. The results of the desktop study should then inform when and where to test for those concentrations. Finally, if elevated levels are discovered, a flow study should promptly follow an elevated test level with two or three increased flow levels for several days each to determine if bacterial or metalloid concentrations can be decreased therefrom. Edison maintains a significant ability to shape the flows in the reach below Fairview Dam from the natural flow above Fairview Dam to a flow 600 cfs less.<sup>176</sup> Based on available data, there appear to be a vast inventory of days at which various flow levels in the riverbed can be

---

<sup>173</sup> *PUD No. 1 v. Wash. Dep’t of Ecology*, 511 U.S. 700, 719-720 (1994)

<sup>174</sup> FERC eLibrary No. 20210607-5005 at 3-322

<sup>175</sup> 1996 FERC-USFS EA at 26

<sup>176</sup> See *post*, KRB STUDY REQUEST 8: Whitewater Flows, “Comments and Response”

obtained — more than three months of days at each level, including more than half the year at flows below 225 cfs<sup>177</sup>:

MEAN DAYS PER YEAR FLOWS ARE SUITABLE FOR TESTING WITHIN GIVEN RANGES (NFKR WY 1997-2021)			
RANGE (CFS) LOW	HIGH	TOTAL DAYS	DAYS PER YEAR
100	124	6529	261
125	149	6311	252
150	174	5659	226
175	199	4987	199
200	224	4634	185
225	249	4247	170
250	274	3878	155
275	299	3489	140
300	324	3140	126
325	349	2853	114
350	374	2536	101
375	399	2266	91

*Criterion (7) – Describe considerations of level of effort and cost, as applicable, and why any proposed alternative studies would not be sufficient to meet the stated information needs.*

The cost should be an estimated \$5,000. The requested study, as noted, can be to a significant extent incorporated into Edison’s proposed bacteria study, and the controlled flow portion of the study would not amount to an out-of-pocket cost to Edison; it would be a lost generation opportunity in service of designing a license for vastly more generation over the next 40 years that is best adapted to this public resource and its affected users. Edison’s proposal for bacterial testing is inadequate for the purpose of learning to what degree increased flows can dilute these substances; Edison proposes to merely test for the presence of coliform bacteria, whereas this study proposes to test for the presence of coliform bacteria and arsenic and then test whether reasonably contemporaneous additional flows can successfully dilute them.

---

<sup>177</sup> Spreadsheet available:

[https://www.kernriverboaters.com/s/KRB\\_KR3\\_SHAPE\\_FLOWS.xlsx](https://www.kernriverboaters.com/s/KRB_KR3_SHAPE_FLOWS.xlsx)