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January 20, 2022

Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

Re: Southern California Edison's Preliminary Application Document, Scoping Document 1 and Proposed Technical Study Plans for the Kern River No. 3 Hydroelectric Project (FERC #2290)

Dear Secretary Bose,

Enclosed for filing in the above-referenced proceeding is **AMERICAN WHITEWATER'S COMMENTS AND STUDY REQUEST FOR SOUTHERN CALIFORNIA EDISON'S PRELIMINARY APPLICATION DOCUMENT, SCOPING DOCUMENT 1 AND PROPOSED TECHNICAL STUDY PLANS FOR THE KERN RIVER NO. 3 HYDROELECTRIC PROJECT (FERC PROJECT #2290)**

Thank you for your assistance. Please call if you have any questions or need additional information. I can be reached at 916-835-1460.

Sincerely,

A handwritten signature in black ink that reads 'Theresa L. Lorejo-Simsiman'.

Theresa L. Lorejo-Simsiman
American Whitewater
California Stewardship Director

**UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION**

Southern California Edison Kern River No. 3 Hydroelectric Project	FERC Project #2290
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**AMERICAN WHITEWATER’S COMMENTS AND STUDY REQUEST FOR SOUTHERN
CALIFORNIA EDISON’S PRELIMINARY APPLICATION DOCUMENT, SCOPING
DOCUMENT 1 AND PROPOSED TECHNICAL STUDY PLANS
FOR THE KERN RIVER NO. 3 HYDROELECTRIC PROJECT
(FERC PROJECT #2290)**

(Submitted January 20, 2022)

I. Introduction

American Whitewater offers the following comments and study request for Southern California Edison’s Preliminary Application Document, Scoping Document 1 and Proposed Study Plans.

II. Interest of American Whitewater

American Whitewater is a national non-profit 501 (c)(3) river conservation organization founded in 1954 with over 6,500 members and 100 locally based affiliate clubs, representing whitewater enthusiasts across the nation. American Whitewater’s mission is to conserve and restore America’s whitewater resources and to enhance opportunities to enjoy them safely. A significant percentage of our members reside in and travel to California for its whitewater resources. As an organization that represents the conservation interests of whitewater enthusiasts, American Whitewater has an interest in the impacts of the Project on the North Fork Kern River.

III. Comments

Pre-Application Document Volume 1

4.0 Project Location, Facilities, and Operations

4.4.4.2. Gaging Stations

The PAD should note that the existing gage hosting provides only 7 days of hourly flow data and no accessible historical flow information. SCE does not currently provide flow information to

CDEC. USGS hosts both SCE 401 (USGS 11186000) and SCE 402 (USGS 11185500), at the daily mean resolution only.

4.5.1 Water Management

The PAD does not clearly describe the release modification in light of the described 300-cfs baseline diversion to the project powerhouse, which dramatically curtails shaping capacity on release days. This aspect of the condition creates a maximum release capacity of 305cfs below Fairview on any given release day. Water management should describe releases in a way that captures real operational modifications on qualifying release days.

4.5.4 Project Facility Maintenance

Section 4.5.4 of the PAD describes the maintenance schedule for Fairview Dam and associated conveyance infrastructure. The “Frequency” column of Table 4.5-3 “SCE Operations and Maintenance Activities” describes several maintenance activities which have historically caused water not to be diverted into the project and restoring the river to its full unimpeded flow. Substantial maintenance activities which would dewater the conveyance system are described in the PAD as “as needed”. The PAD should more accurately describe the schedule of maintenance activities that occur in a way that describes the frequency of maintenance events throughout the previous license term.

4.7.3 Operations and Maintenance

Again, as described above timing, scheduling, and notice of maintenance activities which require the project to cease diversion should be included and described in detail.

5.0 Description of Existing Environment

5.2.3.2 Existing Flow Gages

The USGS-reviewed gage data is only available as daily-averages from USGS. It is standard for gage information to be uploaded to CDEC for important California water infrastructure. SCE should implement an interface with CDEC at hourly resolution, if possible.

5.2.3.3 Hydrology

Some aspects of the hydrology analysis deserve a more thorough treatment in the PAD. The hydrologic depiction presented does not accurately describe the current reality of the Kern River watershed, with very dry years being the most common water year type, and very wet years occurring occasionally. While the graphics describing the hydrology do calculate averages, there is no description of the variance observed between hydrologic years. Given the high variance of precipitation in the drainage, utilizing means as a principle descriptive statistic is not thorough enough to accurately describe precipitation.

Although the described hydrologic conditions seem to have been relatively true in the late 1990s, when many of the cited sources were written, a more recent and thorough treatment of the hydrology should be included. In addition to analyses of variance, a treatment of predictive modeling for the future license term, in light of climate change, would be the most useful description of the river’s flow for decision making at the project.

The resolution of the hydrology should also be changed to reflect a snow-fed river that displays strong diurnal melt patterns in the spring. Mean daily river flows do not adequately capture the hydrology of the Kern. When the hydrograph begins to reflect diurnal snow melt, there can be substantial difference between peak daytime flow and overnight flow. In many cases at both the earlier and later portions of a given year, the daytime flow in the unimpaired river would be adequate for whitewater recreation, or other types of river uses. For this reason, it's important for hydrology to use hourly or 15-minute data rather than daily mean as a standard, which does not appear to have been employed thoroughly throughout the PAD.

5.7.3 Recreation at the Project

The PAD states “In 2006, and in response to public and engineering concerns about safety issues related to constructing a portage at Fairview Dam, the USFS requested that the \$300,000 provided by SCE to the USFS be used for other boating/recreation enhancements”, but there is not a clear record in the PAD nor in the FERC docket of the public and engineering concerns which drove this change. A fuller description of the types of public interactions, and specific concerns, deserves attention. At least one set of stakeholder comments indicated interest in a minimally invasive portage, and the specific limitations which caused Article 421(e) to be modified should be more thoroughly described.

5.7.4.1 Whitewater Boating

It is important to note that Sierra National Forest does not enforce permit use, and in many cases the self-issue permit stations are not adequately stocked with permit supplies. For this reason, SNF Whitewater Permits likely far under-represent the actual whitewater use within the reach.

The PAD does not detail various water sport activities associated with whitewater that have grown and changed since 1994. Changes includes the advances in watercraft allowing for use in a wider range of flows and new types of activities like pack rafting and standup paddle boarding. In many cases the equipment and technical improvements have allowed paddlers to enjoy whitewater at both ends of extreme flow. Thus, particularly high and particularly low flow conditions in the reach can now constitute enjoyable recreation for different user types. The flow ranges identified in the PAD will need to be revisited to account for these changes in equipment technology and newer whitewater activities.

The title and language of the Minimum Whitewater Release table suggests that an additional amount of water will be released into the streambed, despite the reality of operational changes being 0-300cfs less water diverted on qualifying release days. It would be more accurate to describe the whitewater release in terms of amount of water not diverted to the conveyance system, or to describe the whitewater schedule in terms of minimum whitewater instream flow.

Scoping Document 1

3.5 Alternatives Considered but Eliminated From Detailed Study

3.5.3 Project Decommissioning

Several stakeholders during the 14 December Public Scoping Meeting indicated an interest in FERC pursuing the possibility of decommissioning as part of the relicensing process. Commenters indicated that seasonal power economics, seasonal peak project production, the

generation constraints of Fairview’s unique run-of-river baseline production characteristics, and prospective future power generation prices might all bear upon the project during the license term. For these reasons American Whitewater does not see that Project Decommissioning can be categorically excluded as a reasonable alternative to relicensing for KR3. Staff should include Project Decommissioning in the project’s NEPA analysis.

4.0 Scope of Resource Issues

4.1.9 Socioeconomics

Effects of continued project operations and flow diversions on agriculture and other consumptive uses on the North Fork Kern River watershed are captured in the current SD1. However, the socioeconomic value of recreation is not captured in either 4.1.6 or 4.1.9. It is common knowledge that recreation and tourism revenue is a staple economic driver within the Kern River Valley and relicensing of KR3 should quantify and capture the secondary economic impacts of project operations not only on agriculture and consumptive uses but also to surrounding communities as a driver of recreation and tourism spending.

IV. Study Request

Whitewater Recreation Study

The following study request addresses each of the seven study criteria as required in 18 C.F.R. §5.9(b).

§5.9(b)(1) —Describe the goals and objectives of each study proposal and the information to be obtained.

The purpose of this study is to evaluate the impacts of the Kern 3 hydropower project on existing and potential whitewater recreation found on the Nationally designated Wild and Scenic North Fork Kern River from Fairview Reservoir to Kernville. There are 9 whitewater runs identified in Table 5.7-1 of the PAD (see below) which provide recreational experiences for 4 distinct difficulty levels from Class II Novice to Class V Expert. The proximity of the North Fork Kern River to Highway 99 allows separate access and enjoyment of each of these reaches by boaters of every level. Therefore, it is important that the study consider the impacts of the Kern 3 hydropower project to the North Fork Kern River both comprehensively of the entire reach from Fairview Reservoir to Kernville and individually within each separate river run.

Table 5.7-1. Whitewater Runs Located in the Fairview Dam Bypass Reach

Whitewater Run Name	Whitewater Difficulty ^a	Put-in	Take-out	River Mile Start ^b	River Mile End ^b	Length (miles)
Sidewinder / Bombs Away	IV - V	Below Fairview Dam	Roads End/ Calkins Put In	18.5	18	0.5
Fairview	III	Roads End / Calkins Put In	Calkins Flat	18	15.7	2.3
Chamise Gorge	IV - V	Calkins Flat	Above Upper Salmon Rapid	15.7	13.2	2.5
Salmon Falls	VI	Below Lower Salmon Rapid	Ant Canyon	13.2	12.3	0.9
Gold Ledge	IV - V	Ant Canyon	Corral Creek	12.3	9.2	3.1
Thunder	V	Corral Creek	Thunderbird Access or Camp 3	9.2	5.7	3.5
Cable / Camp 3	IV	Camp 3	Riverkern Beach	5.7	3.9	1.8
Riverkern Beach	II	Riverkern Beach	KR3 Powerhouse Put-in/Take-out	3.9	2.9	1
Powerhouse / "Lickety Split"	II+–III	KR3 Powerhouse Put-in/Take-out	Riverside Park, Kernville	2.9	1.1	1.8

^a International Scale of Whitewater Difficulty

^b River miles are calculated using NHD flowlines and upstream of the confluence of the North Fork Kern River and high water mark of Isabella Lake

Generally, the components of the study should include:

- A summary and characterization of current whitewater recreation including boater use numbers and associated economic impacts on the North Fork Kern River from Fairview Dam to Kernville.
- An evaluation and comparison of the complete hydrological record in hourly increments of flows provided to the North Fork Kern River by the Kern. No. 3 Project and unimpaired flows from water years 1996-2022.
- Identification, by stakeholders, of targeted flow ranges consisting of minimum acceptable to optimum flows for each river run. This should be based on boater type for all whitewater uses of the North Fork Kern River including but not limited to hardshell kayakers, inflatable kayakers, rafters, pack rafters, river boarders and standup river boarders.
- An assessment of boating-day opportunities provided by the project from water years 1996-2022 in comparison to unimpaired flows using stakeholder identified targeted flow ranges for each river segment.
- An evaluation of current project operations, constraints, and generation value to providing whitewater recreational flows within identified targeted flow ranges.
- A summary of all current river access locations on the North Fork Kern River from Fairview Dam to Kernville including identification of boater put-in and take-out.

§5.9(b)(2) —If applicable, explain the relevant resource management goals of the agencies or Indian tribes with jurisdiction over the resource to be studied.

The Project has the potential to affect 17.4 river miles of whitewater resources. (see PAD Table 5.7-1)

The NPS has authority to consult with the FERC and applicants concerning a proposed project's effects on outdoor recreation resources under the Federal Power Act (18 CFR §§ 4.38(a), 5.41(f)(4)-(6), and 16.8(a)); the Outdoor Recreation Act (PL 88-29) and the NPS Organic Act (16 USC et seq.). This is especially important for National Wild & Scenic Rivers. It is thus the policy of the NPS to represent the national interest regarding recreation and to assure that hydroelectric projects subject to licensing recognize the full potential for meeting present and future public outdoor recreation demands, while maintaining and enhancing a quality environmental setting for those projects. FERC guidelines and the Federal Power Act, also provide direction to give equal consideration to other non-hydropower resources.

§5.9(b)(3) —If the requester is not a resource agency, explain any relevant public interest considerations in regard to the proposed study.

Sections 4(e) and 10(a) of the Federal Power Act require the Commission to give equal consideration to all uses of the waterway on which a project is located. When reviewing a proposed action, the Commission must consider the environmental, recreational, fish and wildlife, and other non-developmental values of the project, as well as power and developmental values. To fully evaluate the Project's effect on recreation, a whitewater recreation study is relevant to the Commission's public interest determination.

Whitewater recreation takes place on the Wild and Scenic North Fork Kern River when flows allow, which are impacted by project operations. As part of the licensing effort, a comprehensive look at recreation needs should be conducted per FERC guidance to evaluate existing and potential future recreation needs (18 C.F.R. 4.51).

§5.9(b)(4) — Describe existing information concerning the subject of the study proposal, and the need for additional information.

Southern California Edison conducted a Whitewater Flow Study in 1994. However, there are many changes to variables that affect whitewater recreation including the rise of wind and solar energy markets that have impacted the value of forgone generation; advances in whitewater boating gear that allow recreation at different flow levels; and the rise of new user groups like pack rafters, standup paddle boarders and river boarders. These changes necessitate an updated study.

Additionally, a review and comparison of the current license flow record from water year 1996-2022 to unimpaired flow is needed to evaluate the level of enhancement provided to whitewater recreation.

§5.9(b)(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.

Project operations impact all flow-dependent recreational opportunities and the aesthetic experience of those who engage in river-based recreation in the project area. Results from a whitewater boating study will inform relevant license requirements that could address impacts that are identified. The results will also inform the public interest determination regarding whether to relicense this project.

§5.8(b)(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 seasons(s) and the duration) is consistent with generally accepted practice in the scientific community or, as appropriate, considers relevant tribal values and knowledge.

Southern California Edison has proposed in the PAD a 2-level study approach which is contrary to the recommended study methodology summarized in *Flows and Recreation: A Guide to Studies for River Professionals* (Whittaker, Shelby and Gangemi 2005). The methodology described in the guide is consistent with generally accepted practices in the scientific community and American Whitewater recommends this 3-level approach. This is a phased approach where the results of a “Level 1” assessment are used to determine whether “Level 2” and “Level 3” assessments are warranted.

A **Level 1 Assessment** of the North Fork Kern River within the nexus of the Southern California Kern 3 Hydropower Project should include:

Hydrology Assessment. Summarize the hydrology of the Project area and the hydrologic relationship between project operations, project diversions, river gages and river flows using the full record of hydrological data on the North Fork Kern River from water years 1996-2022. The assessment should include impaired and unimpaired flow data formatted in hourly increments using HEC-DSSVue.¹ The hourly data should include:

- 1) Inflows from the NFKR above Fairview Dam
- 2) Fairview Reservoir levels
- 3) NFKR River flows below Fairview Dam
- 4) Diversion flows through the tunnel
- 5) Powerhouse flows
- 6) NFKR River flows below the powerhouse
- 7) Corresponding unimpaired flow

¹ HEC-DSSVue is publicly available on the US Army Corps of Engineers Hydrologic Engineering Center and allows stakeholders and agencies to easily plot and tabulate hydrological data. <https://www.hec.usace.army.mil/software/hec-dssvue/>

In addition, once targeted boating flow ranges of minimum acceptable to optimum flows have been identified by stakeholders, the quantity of boating-day opportunities from this period of record should be identified for each run. This evaluation should compare both the impaired and unimpaired hourly flow record. A boating-day opportunity shall be defined as a period of at least 8 hours of daylight that had continuity of flows present in the river within the targeted flow range and flow fluctuations less than 10 percent from hour to hour. These parameters of daylight, flow continuity and limited changes in flow magnitude address the conditions needed for whitewater recreation.

Tunnel Assessment. A main component of Project operations that impacts whitewater recreational flows is the minimum diversion requirement to the powerhouse of 300 cfs to avoid damage to the tunnel walls. There are no specific engineering studies or information available for stakeholders and agencies to determine the validity of this requirement. Therefore, a preliminary assessment of available tunnel engineering studies and information should be conducted; all information should be shared with stakeholders and agencies; and a summary of that assessment should be provided in this study. Additionally, if current information is found to be deficient by stakeholders and agencies to justify the current 300 cfs diversion an independent engineering study of the tunnel facilities should be conducted and summarized.

Interviews, Recreation Focus Group, and Stakeholder Meetings. Interviews should be conducted with key resource experts and recreation users to gain additional information about recreational opportunities and the Project's hydrology. The focus groups should be comprised of whitewater boaters, commercial outfitters, NGOs, local agencies, and agency recreation staff. They should include questions about 1) how people use the river, with the goal to describe the character of recreation opportunities and identify flow-dependent attributes; 2) the effects of flows on those attributes and whether participants can identify specific flows that affect the quality of opportunities; and 3) how to prioritize opportunities and identify recreation users' need for flow information or improved access. Interviews with agency staff will include questions about facility and use information, as well as relevant hydrology information.

Specifically, the interviews, recreation focus group meeting and stakeholder meetings should be conducted with the purpose to:

- Identify potential needs
- Identify all whitewater boating types on the North Fork Kern River
- Determine targeted flow ranges that reflect minimum acceptable to optimum flows for each of the 9 runs within the North Fork Kern River
- Summarize all access to the project along Highway 99

The focus group meetings should include a presentation of the results of the hydrologic analysis and existing information on recreation access and boatable flows. It should also serve to gather input from recreation users for improvements to enhance the whitewater experience on the North Fork Kern River.

Generation Value Assessment The rising availability of solar and wind energy and what is commonly known as the Duck Curve in energy markets necessitates a closer look at the

generation value of hydropower during the daylight hours when whitewater flows can be provided.² It is important to identify periods when foregone generation value may dip into negative pricing. The change in generation pricing may provide opportunities for enhancement of whitewater recreation. To determine this variable the study should furnish:

- A summary of hourly locational marginal pricing data for the past five years from the California Independent System Operator (CAISO) node where power is sold near the North Fork Kern River. (Assumed to be node TOT179A_7_N001) This information can be gathered from the CAISO website.
- A summary of average monthly generation of the current license term.
- A summary of monthly generation revenue from 2010-2021

Report. The results of the study components should be summarized in a report that describes the hydrology including targeted flow ranges reflecting minimum acceptable to optimum flows, boating-day opportunities, and project effects on recreation flows; the current condition and engineering of the tunnels; generation value identifying market prices during peak run off; a summary of river access within the project; and potential improvements and information needs to consider as part of the licensing process. The report should be released in draft form to interested stakeholders with an opportunity to provide comment.

The report should also include documentation of the recreational needs and explicit analysis for whether studies should progress to Level 2. The decision rests on the answers to these basic questions:

- 1) Are there flow-dependent recreation opportunities available in the subject stream reaches?
- 2) Are flow-dependent opportunities affected by project operations?
- 3) Are flow-dependent recreation opportunities “important” relative to other resources or foregone generation?
- 4) Does Level 1 information precisely define flow ranges?

If the answers to these questions are outstanding, a **Level 2 Assessment** will be necessary. This involves:

Site Visits: A site visit with experienced whitewater boaters will provide stakeholders with an enhanced understanding of Project operations and an opportunity for dialogue on what, if any, changes may be desirable. Participants should scout each river reach to examine the quality and characteristics of boating opportunities, estimate potential flow ranges, identify obvious hazards, and determine whether an on the water flow study is necessary to evaluate whitewater recreation opportunities.

A site visit should be planned for the spring or early summer. This will offer a greater probability of observing higher than base flow levels. It also provides sufficient time to develop preliminary

² “What the duck curve tells us about managing a green grid”, California ISO, https://www.caiso.com/documents/flexibleresourceshelprenewables_fastfacts.pdf

hydrology information about higher flows, become familiar with the resource via interviews and existing literature, and set up logistics with local whitewater boaters who may help guide the site visit. The site visit should include evaluations of all 9 runs identified in PAD Table 5.7.1 and any part of the reach within the Project identified in the stakeholder focus group and interviews.

Report: The Level 2 report should include an assessment of the study participant's evaluations of the potential quality and characteristics of the boating opportunities, including difficulty, type of run, and the type of craft suitable for the run. The report should also describe potential flow ranges, obvious hazards, and recommendations for implementing an on the water flow study, if necessary.

If warranted, a **Level 3 Assessment** should involve an on the water controlled flow study where boaters can determine acceptable and optimal instream flow conditions. The Level 3 report should describe the whitewater boating attributes of the range of flows studied (including difficulty, unique features, and portage requirements), the acceptable and optimal flows for each run, and the frequency of availability of the identified flows under current and any proposed project operation. The report should also incorporate results from the other studies that may be relevant to identifying competing uses or resource needs.

§5.9(b)(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 will depend on what information is readily available and what requires additional work, and is estimated to be between \$75,000 and \$100,000, based upon whether or not on the water flow studies are conducted.

V. Conclusion

American Whitewater appreciates the opportunity to submit a study request for the Kern River No. 3 Hydroelectric Project. We welcome an opportunity to engage in additional dialogue regarding the appropriate scope of a study to evaluate the impacts of the Project on whitewater recreation.

Respectfully submitted,



Theresa L. Lorejo-Simsiman
California Stewardship Director
American Whitewater

**UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION**

Southern California Edison Kern River No. 3 Hydroelectric Project	FERC Project #2290
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CERTIFICATE OF SERVICE

Pursuant to Rule 2010 of the Commission's Rules of Practice and Procedure, I hereby certify that I have this day caused the foregoing AMERICAN WHITEWATER'S COMMENTS AND STUDY REQUEST FOR SOUTHERN CALIFORNIA EDISON'S PRELIMINARY APPLICATION DOCUMENT, SCOPING DOCUMENT 1 AND PROPOSED TECHNICAL STUDY PLANS FOR THE KERN RIVER NO. 3 HYDROELECTRIC PROJECT (FERC PROJECT #2290) to be served upon each person designated on the official service list compiled by the Secretary in this proceeding.

Dated this 20th day of January 2022.

Theresa L. Lorejo-Simsiman

Theresa L. Lorejo-Simsiman
California Stewardship Director
American Whitewater