

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

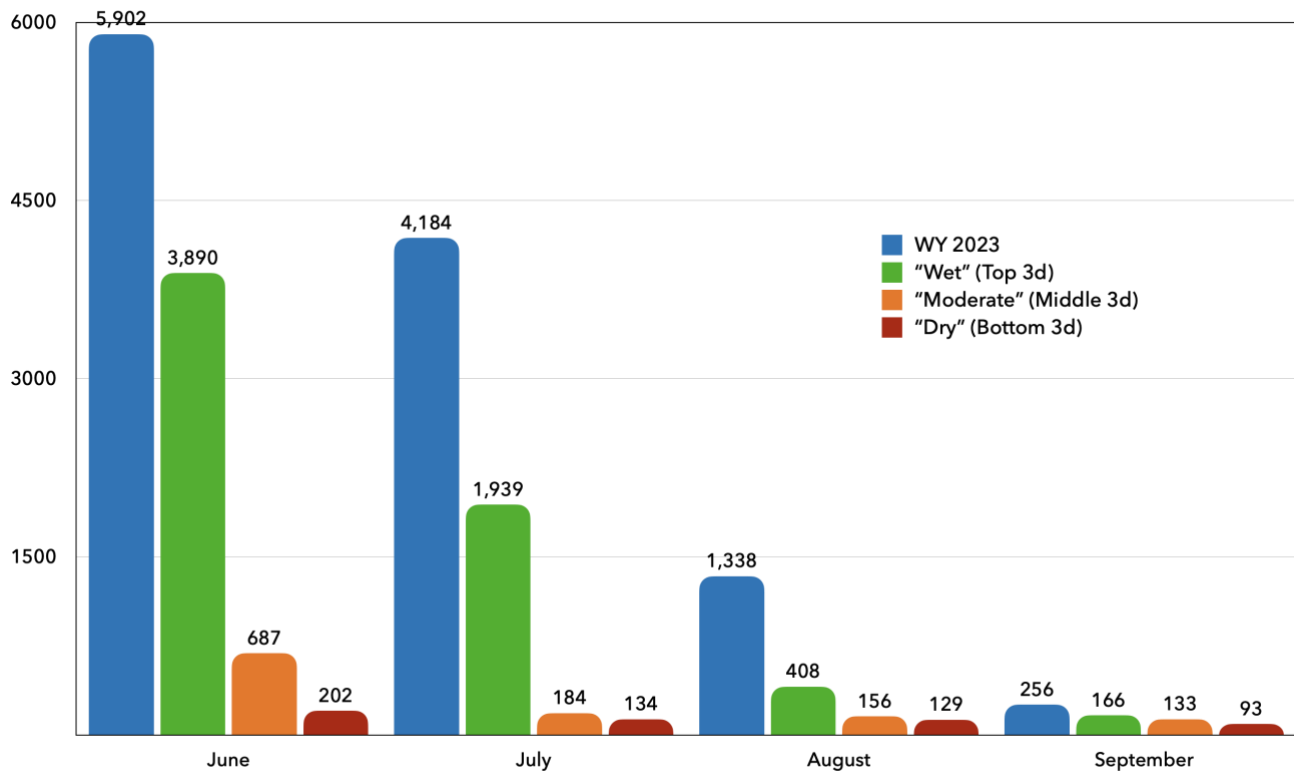
IN RE

SOUTHERN CALIFORNIA EDISON
KERN RIVER NO. 3 HYDROPROJECT

DOCKET NO. P-2290-122

**KERN RIVER BOATERS' COMMENTS AND STUDY
REQUESTS IN RESPONSE TO ISR SUPPLEMENTS**

Mean Flow Below Fairview Dam (cfs), JUN-SEP, WY 1997- WY 2023, by Water Year Type



DATA: SCE WR-2 Hydrology Dataset & USGS Gauge No. [11186000](#).

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REQUESTS IN RESPONSE TO ISR REPLIES

Introduction

In our comments on the initial ISR, we pointed out the fundamental disparity in this process: money. Money made from encumbering this river is used to speak for the continuation of that encumbrance; the river itself — the case for un-encumbering it, or at least lessening the degree of encumbrance — gets none of that money. We can report that Edison has budgeted \$6.1 million for the relicensing of KR3 on top of its salaried employees:

Edison Relicensing Capital Forecasts to CPUC (in thousands)

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	Total
Kern River 3	\$250	\$750	\$1,000	\$1,000	\$1,450	\$800	\$400	\$250	\$100	\$100	\$6,100

(Sources: CPUC 2025 Rate Case (May 12, 2023), [SCE05V01](#) at 81, 92 [01FEB24 accessed version archived [here](#)]; CPUC 2021 Rate Case (August 30, 2019), [SCE05V01](#) at 50, 65 [01FEB24 accessed version archived [here](#)].)

If the public interest is to be obtained regarding Southern California's most important stretch of river, it will be up to the active investigation of the governing agencies, as directed by statute and underlined by the federal courts: "the Commission has claimed to be the representative of the public interest. This role *does not permit it to act as an umpire blandly calling balls and strikes* for adversaries appearing before it; the right of the public must receive *active and affirmative protection at the hands of the Commission*. . . . The Commission must see to it that the record is complete. The Commission has an affirmative duty to inquire into and consider all relevant facts." (*Scenic Hudson Preservation Conference v. FPC* (2d Cir. 1965) 354 F.2d 608, 620 [cited approvingly in *Green Island Power Authority v. FERC* (2d. Cir. 2009) 577 F. 3d 148, 168] (italics added).)

KRB WR-1.1 Water Quality. Bacterial Monitoring, Modification

EDISON: *KRB has not satisfied FERC's criteria for a modified study by demonstrating that the approved study was not conducted as provided for in the approved study plan or that the study was conducted under anomalous environmental conditions. (ISR Reply at 7.)*

KRB: As KRB showed from the KR3 Hydrology Dataset (KRB ISR at 5), the anomalous environmental condition on each date was that Edison was not appreciably dewatering the river below Fairview Dam — less than 2 cfs on each testing date. The KR3 diversion is an all-too important degrading contributor to the environment below that dam, and its effects are the thing we are supposed to be studying. Edison has not shown such a *de minimis* diversion to be a typical environmental condition of the type aimed at by the approved study. The September bacterial tests should accordingly be re-run per our request.

KRB WR-2.1 Hydrology. Management Goals, Modification

EDISON: *[U]pdated or expanded reference documents describing resource agency goals are not a study variance or request for a new or modified study. (ISR Reply at 7.)*

KRB: The failure to include *current* management goals in the CEFF summary — as committed in the ISR — is so plainly at variance with generally accepted and approved study methods as to be unremarkable. We accordingly ask that those be included to implement the approved CEFF.

KRB WR-2.3 Hydrology. Median Flows, Modification

Edison: *WR-2 includes flow reporting typically used and accepted by state and federal resource agencies as commonly used scientific methodologies [and they] report monthly flow data as a mean (sometimes with minimums and maximums), and almost never as a median. (ISR Reply at 8.)*

KRB: *If Edison’s assertion is true, it has completely failed to explain why it did not follow that assertion and instead employed the median rather than the mean as the statistical measure of monthly hydrological effects in the PAD:*

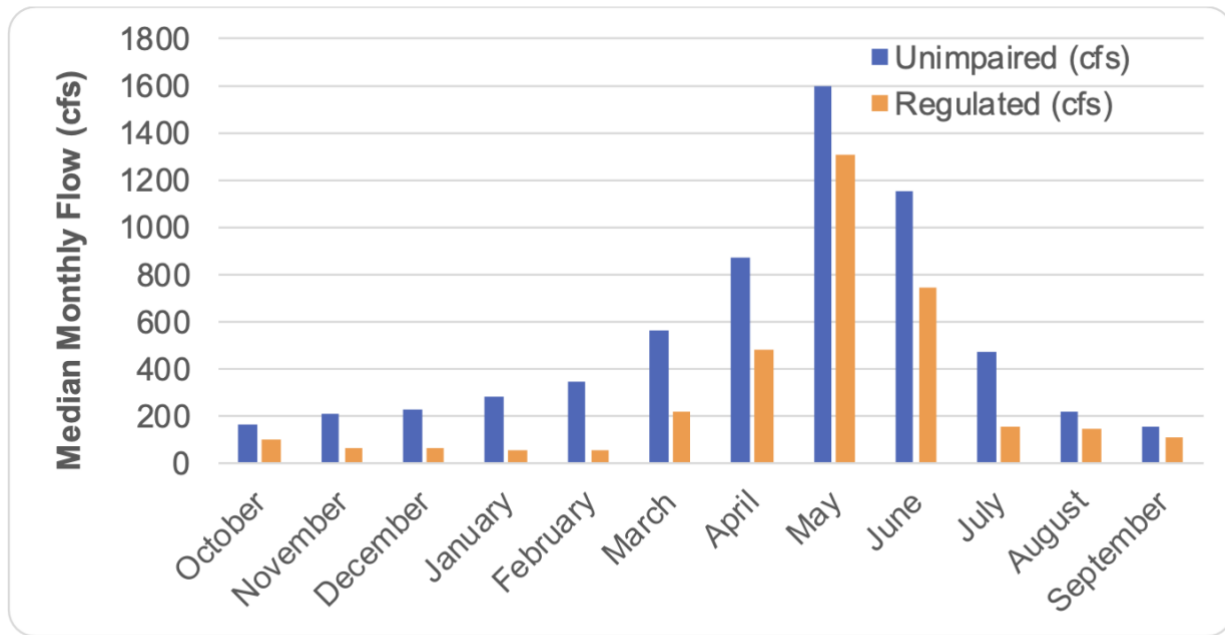


Figure 5.2-1. Unimpaired (sum of USGS gages 11185500 and 11186000) and Regulated (USGS gage 11186000) Median Monthly Flow in the North Fork Kern River, Water Years 1997–2019.

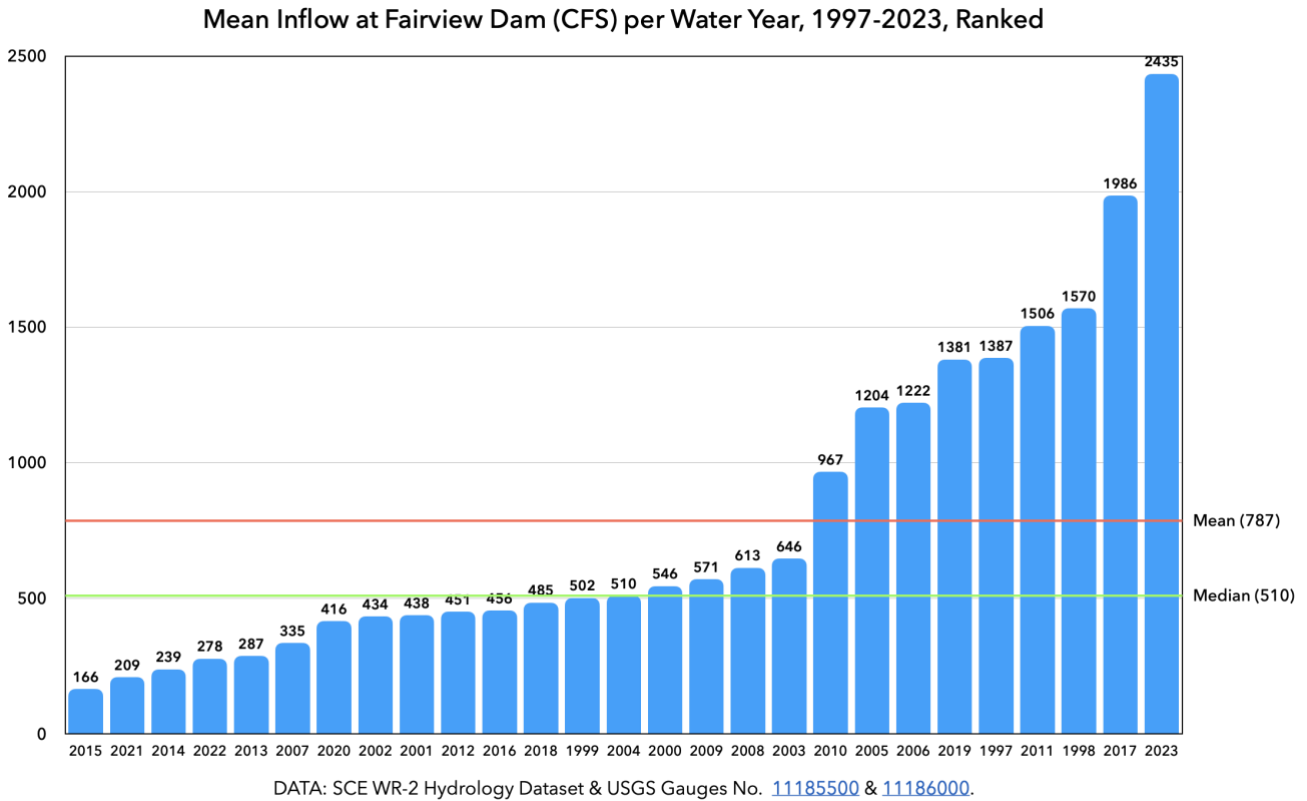
(SCE PAD at 5-25.)

KRB freely acknowledges there are many proper uses of monthly means in river science — such as, potentially, characterizing flows in a single month from a single year, or flows over a set of years without meaningful outliers, or water volumes between water years. The key is whether the data set to be characterized is riddled with outliers. Here, the question is which statistical method best represents the monthly hydrological effects over this storageless, run-of-river diversion given the asymmetrical historical variations in snowpack and resultant flows above and below Fairview Dam.

Edison makes no effort to argue against our central analytical point: namely, that the median best represents the central tendency of an asymmetrical distribution. In the case of KR3, the data set is heavily skewed by the presence of outlier high water years. Applied to

such an asymmetrical distribution, the mean gives undue weight to a small proportion of extremely large values — in this case, a small proportion of high-water years.

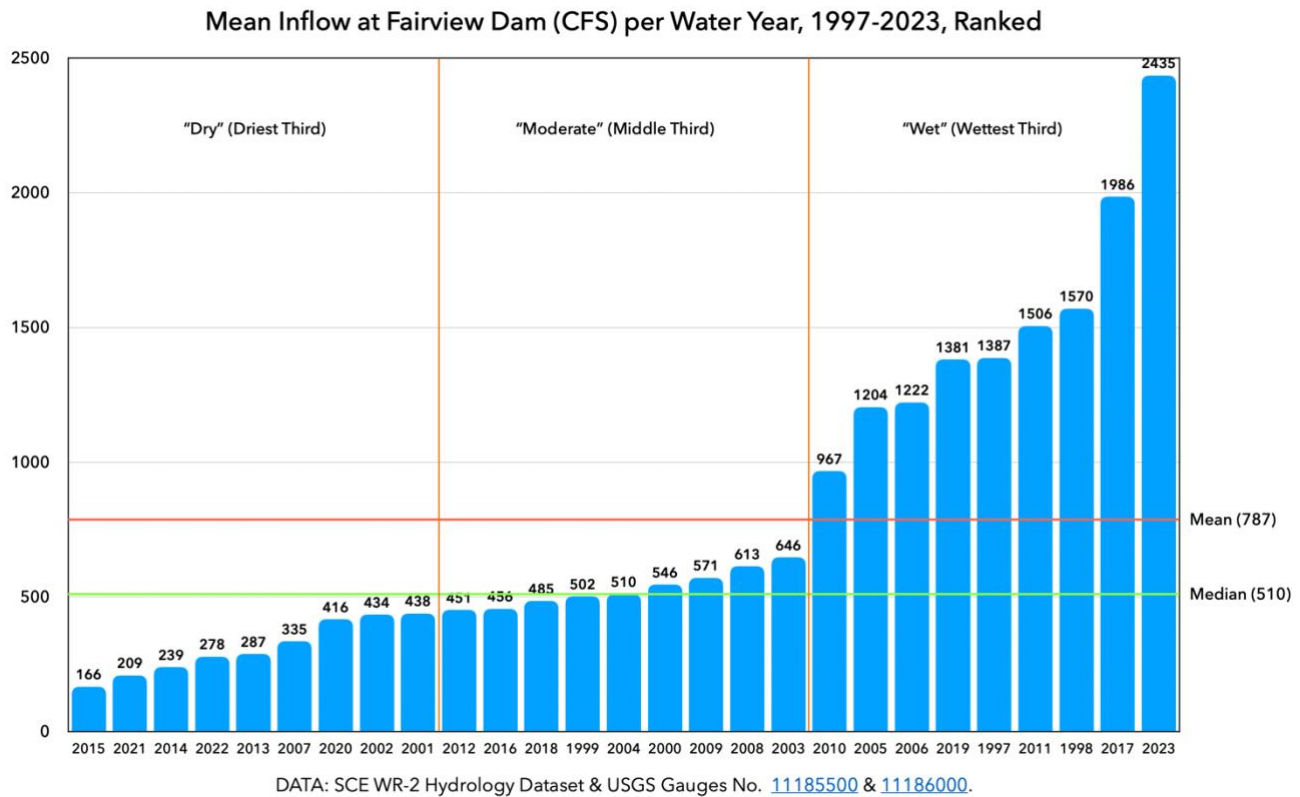
Nor does Edison contend that the distribution of water years on the NFKR is symmetric, for it cannot: just look at the values on the right side of the following chart¹:



Here is the same chart divided into thirds, representing Dry, Moderate, and Wet water year types²:

¹ We have updated our analysis to include the latest USGS data from gauges [11185500](#) & [11186000](#), which includes WY 2023. Chart, methodology, and supporting data available at [this Apple website](#) (Sheet 5, “NFKR Water Year Types, 97-23”).

² Chart, methodology, and supporting data available at [this Apple website](#) (Sheet 5, “NFKR Water Year Types, 97-23”).



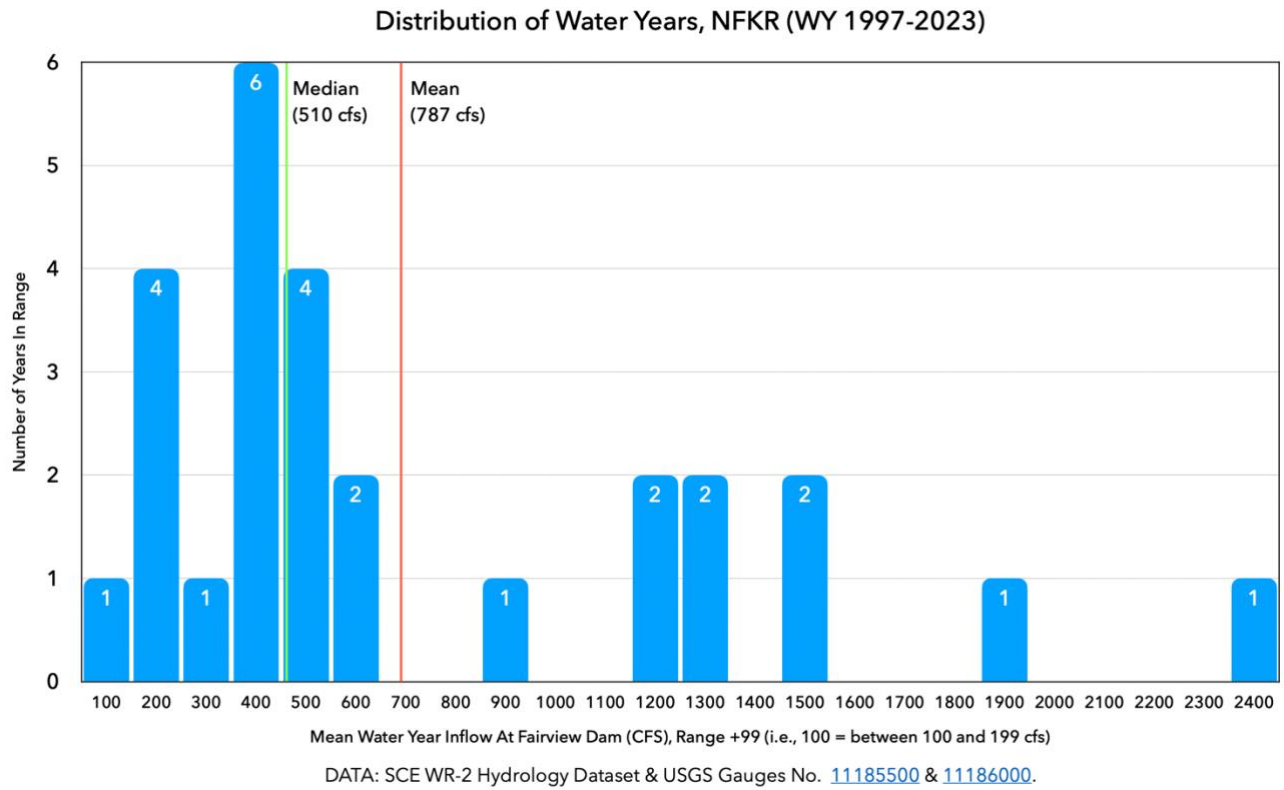
Consider what the chart shows: More than two-thirds the water years are below the mean, the mean is *more than 50%* higher than the median, and the maximum water year flow is *more than four times* greater than the median. The distribution of flows by water year in the NF Kern watershed is skewed heavily by the presence of outlier high water years. As a result, median values — as used by Edison in the PAD (and thus which we expected to be used in the ISR) — best represents the central tendency of KR3’s effect on this waterway.

Edison offers no *reason* to dispute what we have argued, no reason to prefer the mean over the median here, and no example of any of the authorities it casually invokes actually using the mean over the median to represent an asymmetrical water year distribution at a storage-less run-of-river diversion. Those examples do not exist. As US Fish and Wildlife has explained: “What is the justification for using the median? The data are very variable and the median and mean are considerably different from each other. Because the median is a more robust measure of central tendency when outliers are present in a dataset, the median was used for all analyses in Appendix 3 rather than the mean.”³ Each of those elements is found here: outliers, large variation, and a mean which strays far afield of the median. Take another look at the histogram⁴ of water years on the NF Kern. It shows an

³ FERC Accession No. 20181002-5017 at 3.

⁴ Chart, methodology, and supporting data available at [this Apple website](#) (Sheet 5, “NFKR Water Year Types, 97-23”).

asymmetrical bunching of water years towards the left and a small handful of high-water years reaching out far, far to the right:



The central tendency of project effects in this watershed — *i.e.*, those effects most likely to be faced by the living things dependent on the quantity of water flowing below Fairview Dam — are best represented in monthly increments by the monthly median, not the monthly mean. Edison recognized this in the PAD and offered no reason to stray from it since.

Had Edison employed the mean as its monthly graphical representation in the PAD, we could have objected then, for the median is the best science in the context of KR3 hydrology. Edison’s change of methodology be should accordingly be deemed a variance — the median was implied by its prior usage and best science status — and the study should be modified to require graphical representations using the median, not the mean.

KRB WR-2.4 Hydrology. Authorized Flows Tables, New Study

EDISON: *KRB attempts to justify the request by implying the Project will avoid outages in the future. This statement defies the reality of scheduled outages for maintenance activities and the reality of unanticipated events. Although SCE maintains the Project in good working order, these types of outages are inevitable over a 30–50-year license term. Because every powerhouse can experience unanticipated outages, an accurate description of current operations (including outages) marks the best predictor of future operations that SCE has to assess the proposed Project in their License Application. KRB's suggestion that the Project will never experience an outage demonstrates a lack of understanding of the realities of operating a power plant. (ISR Reply at 8.)*



KRB: Edison characterizes the reasons for *all* of KR3's extraordinary rate of outages — more than 23% of all hours in its data set — as “maintenance and unanticipated events,” suggesting that such an incredibly high rate of outages is typical. The characterization is false, and the rate of outages for the last license term is abnormally high.

The biggest outage KR3 sustained in the current license term was not for routine maintenance or other contingency, but rather for the “rehabilitation” of Fairview Dam and its 13-mile conveyance. That rehabilitation project resulted in a complete and total outage of the project for 16 consecutive months in 2013 & 2014. That project was more akin to overhaul and reconstruction — *i.e.*, a capital improvement of deteriorating assets. Indeed, Edison said the purpose of the project was to “*improve* the structural integrity of the dam, tunnel, and sandbox.”⁵ The rehabilitation project required *five* contemporaneous FERC submissions⁶ involving “more than 175 engineering drawings.”⁷ With no evidence in the record suggesting otherwise, this massive rehabilitation project is unlikely to be repeated in

⁵ FERC Accession No. 20130806-5052 at .pdf p. 10 (*italics added*).

⁶ See FERC Accession Nos. 20130620-4014, 20130620-4015, 20130625-0422, 20130625-0424 & 20130626-0301.

⁷ July 16, 2013 email from Edison to FERC:

 **Kelly.Odonnell@sce.com** 📅 2013 July 16, 2013 at 2:27 PM
Fw: Opportunity to Comment on Notice of Release, CEII No. CE13-144 (Duxbury) 
To: Kathryn.Allen@ferc.gov, Cc: Brenda Greer, Tobin.Gibson@sce.com & 5 more [Details](#)

Dear Ms. Allen,

I am writing in response to Ms. Greer's email (see below) attaching Mr. Duxbury's request for SCE documents containing Critical Energy Infrastructure Information (CEII). The deadline for SCE's response is this Friday, July 19.

The three requested docket entries include more than 175 engineering drawings that must be individually reviewed in order to identify specific CEII information. For this reason, SCE requests a two-week extension for our response (until Friday, August 2). Based on Mr. Duxbury's comment in his FOIA

the next license term and was self-identified as being aimed at “improving” project reliability — *i.e.*, decreasing the rate of outages going forward.

Furthermore, repair techniques and technology, both in their implementation and the robustness of their results, should be expected to improve over time. There is no reason to think these factors do not apply to KR3 or that KR3’s managers will not seek to use them to improve project reliability. Indeed, unlike here — where Edison argues that a 23% rate of outages is somehow typical and capital improvements never occur — Edison has boasted to the California Public Utilities Commission that its hydro fleet sustains outages at a rate of just 13%⁸ — and that figure includes the pro-rating of generation outages. The 23% figure includes no pro-rating. Edison also boasts to CPUC: “Capital projects performed during this period have been effective in improving the performance of SCE’s Generation fleet.”⁹ That is quite different from the picture Edison paints to the Commission.

Edison has provided no evidence that KR3’s excessive rate of outages will be repeated in a coming license term. Rather, Edison offers hand-waving assertions about maintenance and insinuations [“lack of understanding”] about groups that use evidence to challenge those assertions. Edison is capable of providing an evidence-based estimation of outages going forward. It has not. Absent such evidence, our proposed authorized flows study fills an essential knowledge gap in project effects as KR3 recovers from a particularly ineffective period of time during which the environment was spared the full force of the project diversion. The authorized flows hydrology is at minimum a bookend of potential project effects when coupled with the hydrology of flows from this last term. The truth going forward may lie in between the two, but decisionmakers at a minimum should be aware of how much more damage this project is capable of doing to the river hydrology below Fairview Dam. Indeed, we simply cannot presume that a similar outage rate will

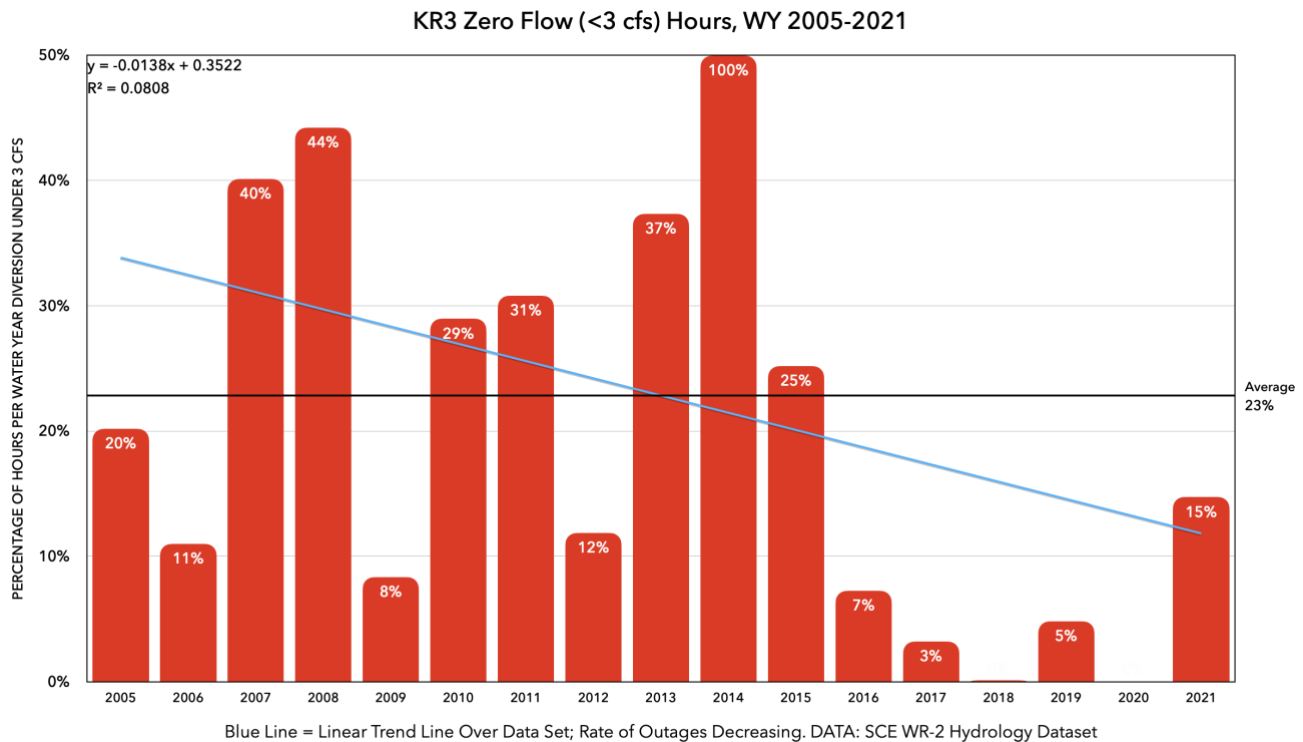
⁸ See SCE 2025 Rate Case (May 12, 2023), [SCE05V01](#) at 14-16 & fn. 18 [01FEB24 accessed version archived [here](#)]. From Edison: “EAF is the percentage of time that a generating asset is available for operation. . . . EAF and EFOF include derates (*i.e.*, partial outages), whereby the duration of such outages is measured on an “equivalent” or pro-rata basis (*e.g.*, a two-hour derate outage of half of the plant's MW capacity is equivalent to a one-hour outage involving the plant's total capacity).”

Table I-6
Generation BPE – 2013-2022 EAF and EFOF Performance

Line No.	Generation BPE	SCE		Industry	
		EAF	EFOF	EAF	EFOF
1	Hydro	86.62	5.16	80.83	5.11

⁹ SCE 2025 Rate Case (May 12, 2023), [SCE05V01](#) at 15 [01FEB24 accessed version archived [here](#)].

occur in the next license term — just look at the blue linear trendline over Edison’s hourly data set¹⁰:



So it is not true, as Edison urges, that “data collected and summarized under Study WR-2, along with other existing operational information will be sufficient to complete the analysis of effects and to develop license requirements.” (ISR Reply at 38.) To the contrary, with the past rate of outages so incredibly high — and with that rate decreasing over time after an intensive deployment of capital to improve project reliability — Edison’s current term hydrology *grossly understates* project effects going forward. Baseline “current conditions” include capital projects already completed to improve reliability. Current operations include those improvements, and past outages suffered to obtain greater current reliability should not improperly influence the analysis of baseline project effects going forward.

Finally, Edison contends that “several” (ISR Reply at 38) negative months of generation represented in a PAD table put the world on notice that the project’s prior hydrology was not a faithful indicator of project effects going forward. Significantly, Edison refuses to count those months — and for good reason, from its perspective, for there are

¹⁰ Chart, methodology, and supporting data available at [this Apple website](#) (Sheet 9, “KR3 Zero/Low Flow”).

only 28 (see Table 4.6-2 at PAD 4-25)— less than 10% of all months in the data set. Ten percent is a far, far cry from the 23% figure that Edison revealed post-PAD in the hydrology dataset. If Edison had been upfront with that figure — and the recent reduction in rate of that figure — interested managing agents could have asked for an authorized flows hydrology as well. We ask that the authorized flows study be performed in line as described in our ISR request.

KRB WR-2.5 Hydrology. CEFF Below Fairview Dam, New Study

In the study design process, KRB proposed using the already collected and existent hydrology datasets from immediately above Fairview Dam (unimpaired) and immediately below Fairview Dam (impaired) to calculate and compare the CEFF functional flow metrics¹¹ for each data set in an effort to use the best contemporary environmental science to understand and characterize project effects on the 16-mile dewatered stretch.

These flow metrics are a set of calculations and characterizations that can be applied to a known hydrograph — like the hydrographs SCE has readily available for both the above and below Fairview Dam. Calculating the CEFF functional flow metrics on both the unimpaired flow hydrograph and impaired flow hydrograph make it possible to *compare* the functional flow metric differences for each — *i.e.*, to see what the best contemporary river science available has to say about the effects of the project diversion.

KRB has requested this data analysis methodology from the outset. SCE has conveniently avoided the full request by throwing out the impaired flow metrics and comparative elements, thereby precluding the application of the best available science for characterizing the diversion's effects. Responding to KRB's proposal:

1) SCE objects that “KRB is incorrect when stating that the Study WR-2 analysis was completed for the reach above Fairview Dam.”

SCE seems to be intentionally misreading the KRB study request and misunderstanding their own project hydrology. The request is for both unimpaired and impaired functional flow metrics.

- KRB agrees that in WR-2, SCE has already retrieved and provided the natural flow estimates developed by the CEFWG's Natural Flows database¹². This data uses machine learning models to estimate **natural, unimpeded** flow metrics for any given location of interest (LOI).¹³
- KRB agrees that the LOI chosen in WR-2 is in the reach immediately downstream of Fairview Dam¹⁴.
- However, the fact remains that these natural flow estimates represent the unimpaired flow of the river: they “provide information on the timing, magnitude, and ranges of natural flows” and “approximate flow conditions in the absence of all human activity”.¹⁵

¹¹ See <https://ceff.ucdavis.edu> (CEFWG 2021)

¹² See <https://rivers.codefornature.org> (Zimmerman 2023)

¹³ ISR WR-2 at 4-6 & 15-23

¹⁴ SCE “Initial Study Report: Response to Comments,” at 39

¹⁵ *Ibid.*

- It is also the case that under current conditions, the natural unimpaired flow of the river is present only ABOVE Fairview Dam.
- Therefore, these flow metrics for unimpaired flows will also necessarily provide the current flows metrics above Fairview Dam.

SCE has performed an analysis of unimpaired flows, using a location below Fairview Dam for the data model. KRB requests the functional flow metrics also be calculated for the impaired flows as currently exist below Fairview Dam under baseline current operations.

2) SCE objects, “The requested study is not needed for SCE to complete an assessment of potential effects of the proposed Project compared to current (baseline) conditions.”

On the contrary-- with their continued refusal, SCE is currently failing to capture “current (baseline) conditions”. KRB agrees that an assessment of potential effects should include current conditions. Further, KRB suggests that the *only* way to assess current baseline conditions in the diverted stretch, where flows are impaired by the project diversion, is to also calculate the functional flow metrics on the current, impaired hydrograph. Indeed, the impaired hydrograph *is* the current condition. KRB simply requests that the functional flow metrics on the current, impaired flows be calculated and provided alongside the natural unimpeded functional flow metrics already estimated.¹⁶

3) Finally, SCE objects that “CEFF Section A analysis does not include this type of comparison.”

KRB agrees. That is why this was written up as a new study request, and not a variance or omission to the existing study request. Unfortunately, through the study plan revision process, SCE eliminated all sections except for Section A of CEFF from the proposed study WR-2 (unimpaired flow metrics). While KRB agrees that it was reasonable to remove the recommendations portion of CEFF from the study, there was no ground or explanation given for why the impaired flow metrics or comparative analysis were excluded.

These functional flow metrics are indicative of important streamflow functionality, and changes are captured in this alteration assessment which are not visible in zoomed out linear- or log- scale plots of annualized flows or flow durations. It is important that all stakeholders are working from the same starting point and have a clear understanding of the current state of the system as we enter the recommendations portion of the FERC ILP. “Water managers need a consistent statewide approach that can help transform complex

¹⁶ Optionally, the unimpaired functional flow metrics can also be calculated from the unimpaired “Above Fairview Dam” hydrograph dataset, although KRB’s analysis indicates the already provided estimates are a good match (See KRB ISR WR-2.5, Appendix A).

environmental data into scientifically defensible, easy-to-understand environmental flow recommendations that support a broad range of ecosystem functions and preserve the multitude of benefits provided by healthy rivers and streams”¹⁷ and that is exactly what this completed functional flow metrics and alterations study is meant to provide. For these reasons, we ask that the Commission implement our new study request to permit the comparison of functional flow metrics on the unimpaired vs impaired flows below Fairview Dam.

¹⁷ CEFWG 2021

KRB WR-2.6 Hydrology. 2018 Preliminary Flows, New Study

Edison: (ISR Reply at 40-41.)

KRB: We tried to get this data directly from Edison outside of this process in a spirit of cooperation — *i.e.*, without calling the compliance office, without the filing of a complaint, and without the present study request — and Edison unwaveringly rebuffed us. We acknowledged both to Edison directly and in our study request to FERC that rec flows are based on hourly preliminary flow data. There is no confusion or disagreement on that point. However, eight days after that preliminary data is published in real time, Edison *removes it from public view forever*.¹⁸ Thus, it is impossible for the public to go back and establish whether there was compliance when, as here, a final dataset offers *prima facie* evidence of noncompliance. Surely Edison understands these facts notwithstanding its offense at belatedly providing this preliminary flow data. We are satisfied with it. But let this be a cautionary tale: This incident has (1) shown preliminary data to be ineffective in providing recreational flows commensurate with actual flow conditions, (2) shown the need for an open and public repository of KR3 flow data that can be used to establish recreational and environmental compliance, and (3) shown Edison's unwillingness to cooperate with stakeholders on a simple, reasonable, evidence-based query.

¹⁸ See <http://www.sutronwin.com/scedison/tw/jsp/>

KRB BIO-5.1 Western Pond Turtle. Sudden Inundation, Comment

Edison: *Potential Project effects to the western pond turtle will be analyzed in the License Application, based on information produced from the FERC-approved study plan. (ISR Reply at 47.)*

KRB: *Having not rejected the question's propriety, we expect it to be answered: Aren't the turtles or similarly-situated species in this drainage at risk of decimation — or elimination if the population is small enough — from the sudden operation of the KR3 emergency spillway, which can inundate that creek with 600 cfs of water in an instant and cannot be stopped for several hours given the water travel time between Fairview Dam and the spillway?*

KRB REC-1.1 Boating. SIQ, Modification

EDISON: *The REC-1 Whitewater Study RSP, which FERC staff approved in its SPD, does not include a requirement to complete all of the Level 1 Desktop Review of Existing Information by the filing date of the ISR. (ISR Reply at 11.)*

KRB: Under any reasonable construction of the RSP, this is false. The RSP stated that the ISR would “include L1 results” (RSP REC-1 at 9) and that those results would include “estimated range of preferred flows and knowledge gaps” developed from the Structured Interview Questionnaire (“SIQ”). (RSP REC-1 at 5.) The SPD approved the REC-1 RSP with no modifications to this reporting requirement. (SPD at B-22 through B-26.) Importantly, there is no provision in the RSP or the SPD for the reporting of REC-1 Level 1 results in the USR. Edison’s variance from the study plan on this important reporting requirement — and its failure to admit the variance — remains problematic, notwithstanding its belated reporting four months late. That delay — again, from an unadmitted variance by the applicant — has pushed the resolution of ISR issues back into June. Although it may be in Edison’s interest to run out the clock on its application and squeeze stakeholders of their fair share of time to analyze study data and develop compelling license conditions, it is not in the public’s interest.

EDISON: *KRB in its comment incorrectly interprets the phased approach described in *Flows and Recreation: A Guide to Studies for River Professionals* (Whittaker et al., 2005). KRB incorrectly assumes there must be a hard stop in data collection between levels in a sequential approach. (ISR Reply at 11.)*

KRB: Our comment does not rest on the necessity of hard stops in Whittaker. Rather, it rests on the language of the Edison’s own RSP — namely, that the ISR would “include L1 results” including “estimated range of preferred flows and knowledge gaps,” with no provision for additional L1 reporting in the USR. It rests further on Whittaker’s goal to “allow information to be shared earlier in the process” with governing agents and stakeholders¹⁹ — and specifically, with regard to the L1 SIQ: “the earlier this report can be completed and distributed, the better”²⁰ to facilitate shareholder input in the design and implementation of further studies. Edison has instead put forth a panoply of study techniques with no indication on how it will validate, aggregate, integrate, and report the data it obtains. We reiterate our concern that this degree of research freedom is ripe for conscious or subconscious p-hacking.

¹⁹ Whittaker, “Flows and Recreation” (2005) at 8, available: <https://hydroreform.org/wp-content/uploads/2020/05/flowrec.pdf>

²⁰ Whittaker (2005) at 13.

The variance has prejudiced stakeholders in the timing of this proceeding. As such, we again ask that the Commission require Edison to post on its website all survey data — both the table data used to generate Edison graphical representations and the raw data underlying it — in usable, sortable spreadsheet (.xlsx) form in order to facilitate independent analysis.²¹ Data that has been reported on to date should be posted within weeks of the ISR determination; the balance should be posted contemporaneously with the publication of additional study reports. We no longer have the luxury of time to engage in a back-and-forth with Edison over trying to obtain this data; the FLA quickly approaches.

Transparency in the relicensing process is paramount for ensuring that decisions are informed, fair, and reflective of a comprehensive understanding of environmental, recreational, and operational impacts. Access to Edison's raw and tabulated data is essential for KRB and other stakeholders to participate meaningfully in this process. Without this data, our ability to contribute constructively to the dialogue around KR3's future operations and potential license conditions is significantly hindered.

The variance from the study plan introduced by Edison, and the subsequent delays in the process, underscores the urgency of making study data available to stakeholders. Time is of the essence, and every day that passes without access to this data limits our opportunity to prepare informed, evidence-based proposals for the relicensing. As the process advances, the window for stakeholders to influence outcomes narrows, making immediate data sharing not just beneficial but necessary.

FERC's oversight of the relicensing process includes ensuring that all participants are afforded a fair opportunity to engage. This is compromised when stakeholders are denied access to data crucial for their analyses and proposals. Mandating Edison to share the data would reinforce the integrity of the process and uphold stakeholder trust. Shared access to Edison's data also facilitates a richer decision-making environment. It enables stakeholders like to offer insights, identify potential oversights or biases in initial analyses, and propose solutions that balance developmental and non-developmental values. FERC's commitment to a transparent and inclusive relicensing process is both a legal and ethical obligation, particularly given the public interest in KR3's operations and impacts. A directive from FERC for data sharing aligns with these obligations, ensuring the licensee operates transparently and in the public interest.

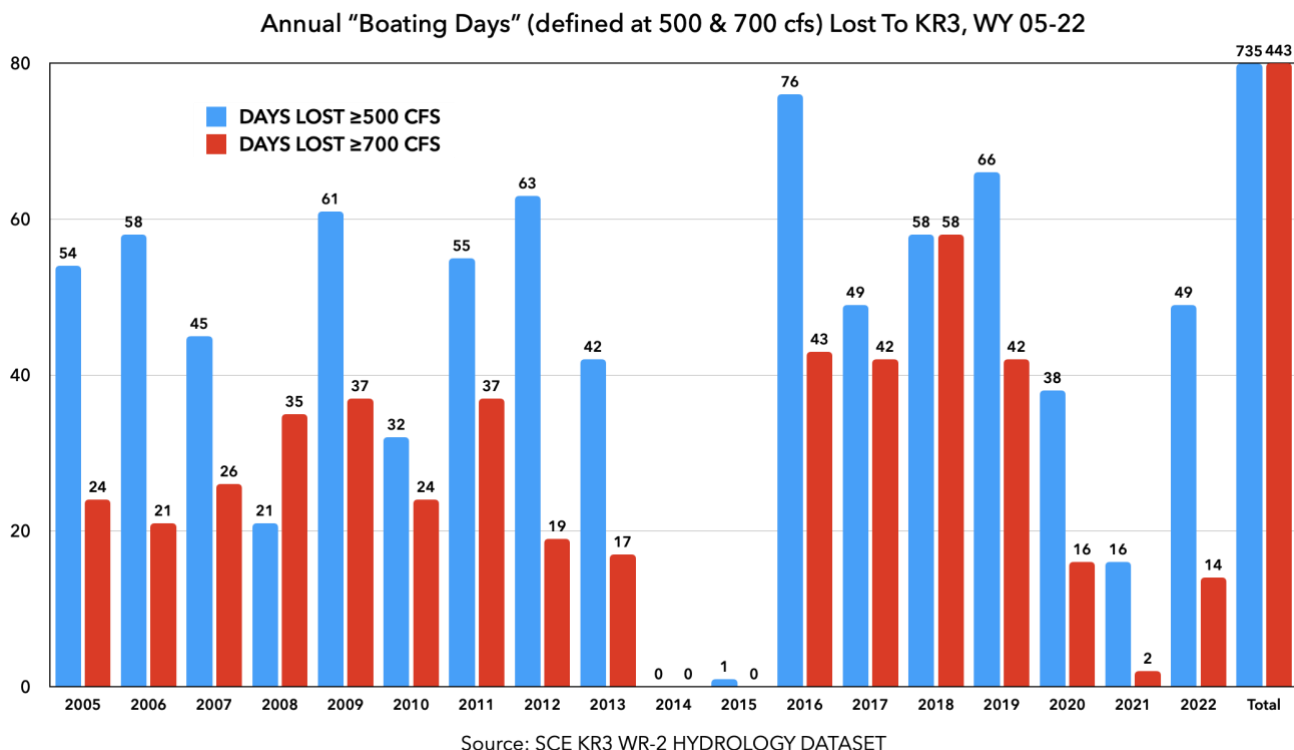
²¹ We ask that the Commission direct Edison to post this data in sortable spreadsheet (.xlsx) form as a matter of course (in the manner of the initial WR-2 hydrology dataset) contemporaneous with the issuance of its study reports generally for all stakeholders, but specifically regarding WR-1, WR-2, AES-1, ANG-1, REC-1 & REC-2 with regard to us.

KRB REC-1.2 Boating. Annual Boating Days, Modification

EDISON: *It is premature to perform that level of hydrology analysis in the Level 1 Desktop Review of Existing Information prior to developing flow preference curves for each watercraft type in the respective river segments. (ISR Reply at 11.)*

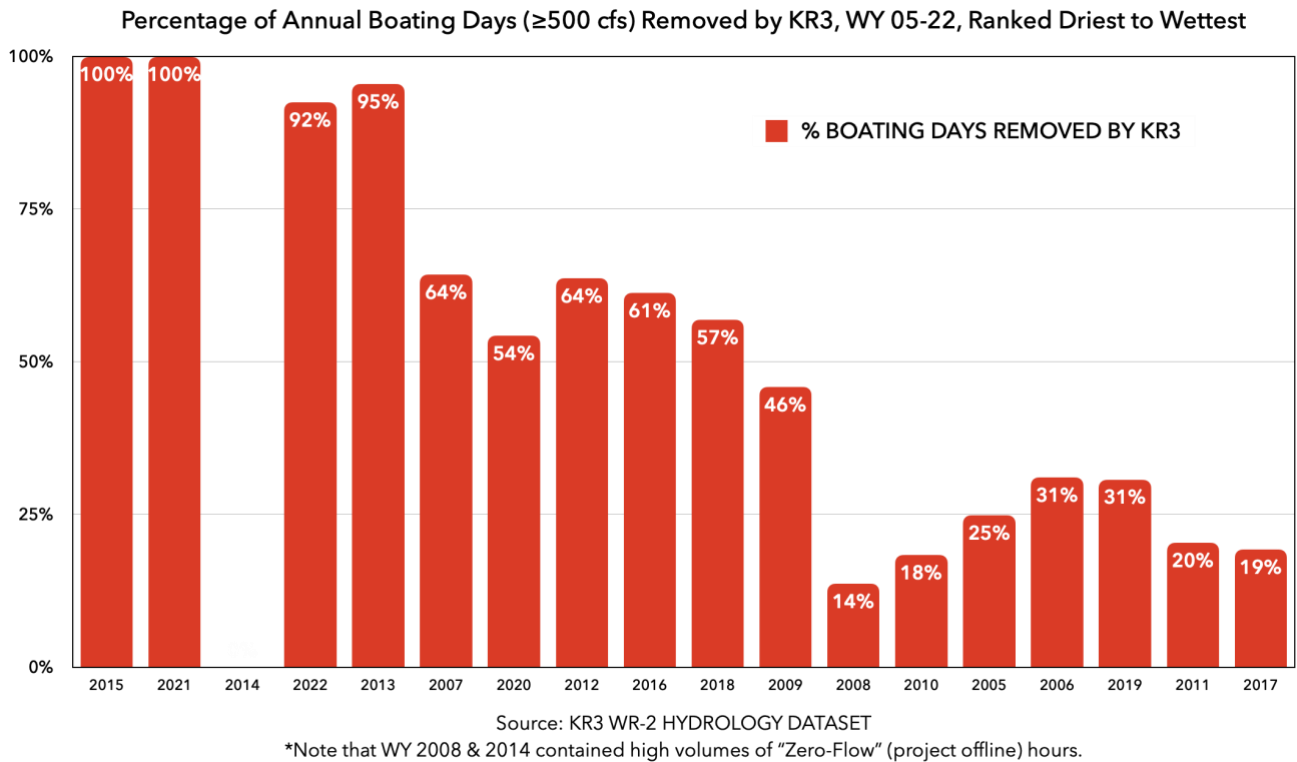
KRB: This response is self-refuting. Edison deemed it a ripe time to produce its L1 “boating days” analysis in the ISR; now it asserts such to be “premature.” We have explained why Edison’s use of the 700 cfs figure was not based on the “whitewater release requirement,” was not “based on the 1994 whitewater study,” and is contrary to the published results of the L2 focus group. (KRB ISR REC-1.2 at 50-58.) It is now also at odds, as we predicted, with the L1 SIQ. That study reveals that on the most popular whitewater segment of the dewatered reach, the minimum acceptable flow is 300 cfs. (ISR Attachment A at 9 & 18.)

This is an important issue. It is in Edison’s interest to keep the definition of a “boating day” at a higher level rather than a lower one: project effects in removing boating days *increase dramatically* as the flow definition of a boating day *decreases*. Consider WY 2022, whose hourly data was recently released by Edison. In that year, the project removed 14 of 17 “boating days” at 700 cfs, but 49 of 53 boating days defined at 500 cfs²²:



²² Chart, methodology, and supporting data available at [this Apple website](#) (Sheet 15, “KR3 Annual Boating Days, 05-22”).

Edison also fails to account for the fact that project effects on boating are felt more strongly in dry years than wet: In dry years, the project takes away almost every boating day, in moderate years about half, and only a quarter in wet years²³:



Finally, as we discussed in our initial comments, Edison’s boating days analysis fails to inform its readers that the project was offline 23% of the time during its data set. For these reasons, Edison’s current boating days analysis in the ISR is extremely inaccurate and misleading in its favor — consequences that cannot reasonably coexist with the approved study.

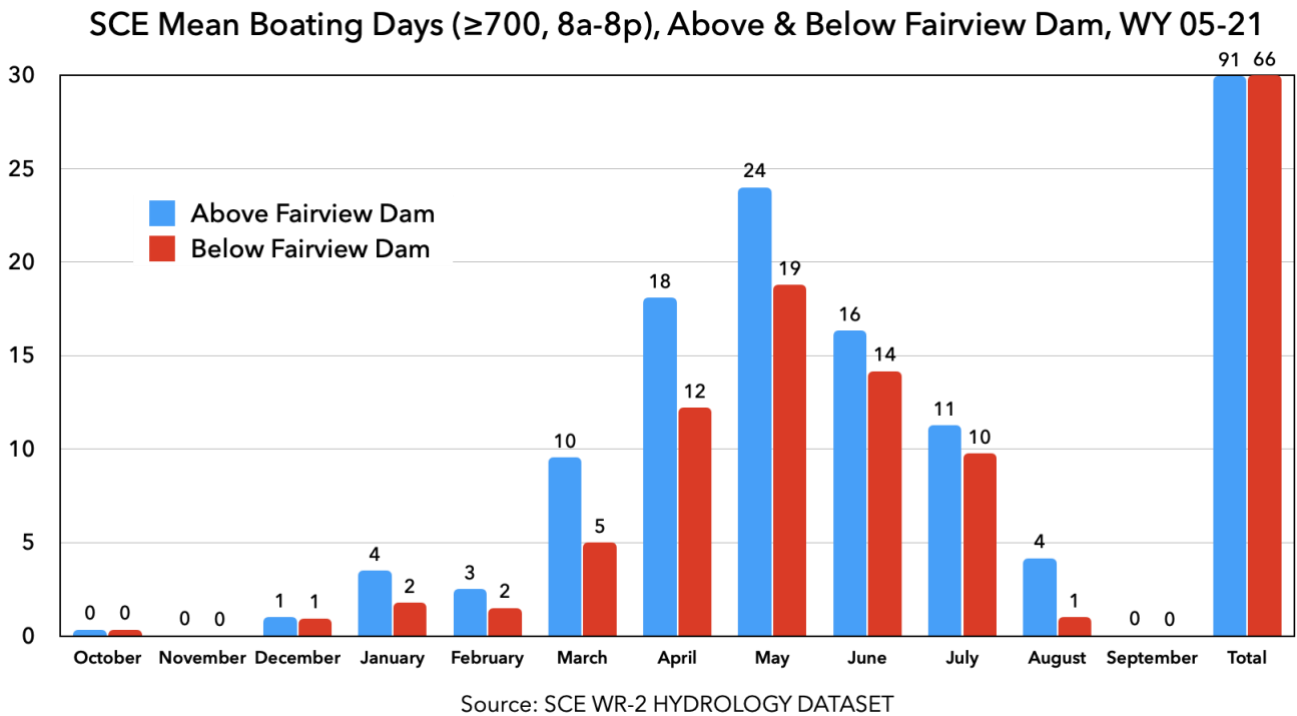
We again ask that the Commission direct Edison to modify the ISR and the remaining REC-1 study to require graphical summaries based on an accurate flow definition of a boating day, account for project effects in dry and moderate water years, and account for the time the project was offline.

²³ Chart, methodology, and supporting data available at [this Apple website](#) (Sheet 15, “KR3 Annual Boating Days, 05-22”).

KRB REC-1.3 Boating. Monthly Boating Days, Modification

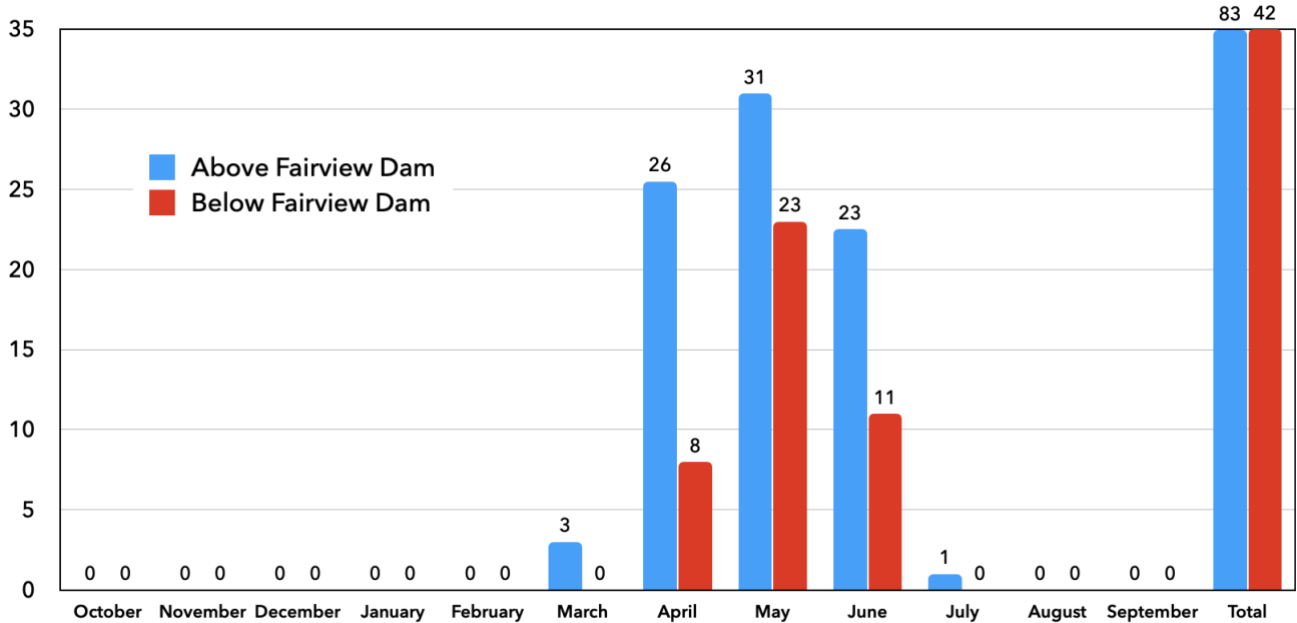
EDISON: *The statistical median will be included in the comparative frequency analysis of the monthly number of days above and below Fairview Dam. (ISR Reply at 11.)*

KRB: We fail to see how this response invalidates our comment. If the median will be included in the USR, why was it not used in ISR, where first impressions on study data are made? We have shown the distribution of water years in the NF Kern watershed is not of a symmetrical nature suited to analysis by the mean. Rather, it is asymmetrical, skewed by outlier high water years up to four times greater in water volume than the median that push the mean almost 50% higher than the median. The central tendency of such a system is inarguably represented best by the median. Again, a comparison of *median* monthly boating days above and below Fairview Dam paints a much different picture of project effects than Edison’s ISR REC-1 Figure 5.1-9 — what follows is a look at the mean, then the median²⁴:



²⁴ Charts, methodology, and supporting data available at [this Apple website](#) (Sheet 17, “KR3 Median Boating Days, 05-21”).

KRB Median Boating Days (≥ 700 , 8a-8p), Above & Below Fairview Dam, WY 05-22



Source: SCE WR-2 HYDROLOGY DATASET

Wet years add undue, large numbers of available boating days to the average because the project is capped at removing 600 cfs from the river. Those figures are undue since wet years are infrequent and accordingly should not be afforded inordinate weight by padding the stats, so to speak, in favor of Edison. The more typical project effect confronting boaters is best represented by the median. The REC-1 ISR “mean monthly boating days” summary is accordingly at variance with the approved study and should be corrected.

KRB REC-1.4 Boating. Focus Group Composition, Modification

EDISON: *Members of the boating community were allowed to nominate themselves to participate in the Level 2 Limited Reconnaissance site visit. SCE encouraged the boating community to nominate participants representing diverse age, gender, skills, watercraft, and geographic areas. SCE did not select the participants. Thirteen boaters nominated themselves to participate in the Level 2 Limited Reconnaissance site visit. SCE invited all 13 individuals to participate as well as interested agency staff. In the end, 10 boaters attended the Level 2 Limited Reconnaissance site visit. Clearly, SCE did not establish this panel but rather the boating community did. SCE cannot force boaters to volunteer and/or participate in focus groups. (ISR Reply at 12.)*

KRB: In the ISR REC-1, Edison stated that the panel “*represented a broad cross-section of the whitewater boating community on the NFKR.*” (ISR REC-1 at 33.) Now Edison simply contends that it did not “*establish*” the panel. We take issue with both contentions. It is obvious that the study panel was not a cross-section of the boating community: Of the nine participants with experience over the range of flows, six were local business owners. Eight of the nine participants live in the Kern River Valley. Of the five participants who kayak, three are willing to trade flows from this proceeding in exchange for their pet project.²⁵ Finally, there were no minority participants. (Compare with participants in NF Kern videos at KRB sister site: socialwhitewater.com.) This was not a representative panel.

Edison avers it did not establish the panel. To the contrary: unlike what it did to pull off its L1 SIQ and L3 SFS, Edison did *not* reach out to the general community for its L2 focus group; rather, it used an email list of uncertain distribution. Stakeholders at the October 17, 2023 ISR meeting expressed frustration about L2 focus group process, composition, and timing.²⁶ Further, it is not true that Edison’s hand was uninvolved in the establishment of the group. Edison did not attempt to fill three cancellations through community outreach but *did* allow a fourth cancellation to irregularly nominate a replacement beyond the nomination deadline. Edison revealed neither the vacancies nor the irregularity to the community until the ISR.²⁷

Edison’s failure to obtain a representative panel for its L2 focus group is at variance with the approved study plan, which per Whittaker requires that panels be representative. Due to this variance, we request that REC-1 be modified so that all panels going forward are established with the opportunity for stakeholder comment and review and require

²⁵ Proposed at the 01DEC2021 American Whitewater boating community meeting [recorded by AW]. No boaters supported the proposed trade at the AW meeting, nor have any suggested such in the numerous comments to this proceeding.

²⁶ Edison still refuses to commit to weekends for its REC-1 studies.

²⁷ See ISR REC-1 at 32 [“*Another boater nominated a replacement, for a total of 10 boaters*”].

stakeholder agreement prior to implementation²⁸, and that any disputes be resolved by FERC or its W&SR recreation advisor, NPS.

²⁸ Regarding panels, “Stakeholder and agency agreement on composition may be useful.” Whittaker (2005) at 14.

KRB REC-1.5 Boating. Focus Group Omissions, Modification

EDISON: *The participants provided input on all the river segments responding to an established set of questions repeated for all the river segments. (ISR Reply at 12 (emphasis added).)*

KRB: The bolded language refers to yet another iteration of the SIQ, which most participants had already filled out online. Participants were most assuredly *not* informed that study activities were to take place inside the shuttles — another irregularity.

Edison: *SCE queried the boaters to list their favorite river segments to see if there was a way to aggregate the eight river segments in the bypass along some common interests. (ISR Reply at 12.)*

KRB: Once again, Edison fails to learn from its studies. Both the L1 and L2 studies reveal that three of Edison’s purported eight segments in the dewatered reach are *always* boated in conjunction with another segment. No one boats Sidewinder/Bombs’ Away, Salmon Falls, or Riverkern Beach in isolation; the three are *always* boated in combination with stretches directly above or below. That leaves just five meaningful segments in the dewatered reach: from top to bottom, Fairview, Chamise, Ant, Thunder & Cables.

The old guidebooks used to refer to *a combination* of Ant and Thunder as “Goldledge,” the name of an alternate put in that has been superseded in use over the decades by the Ant Canyon put in, which adds three rapids to Ant, or Corral Creek, which is shorter and includes only the Thunder run. “Camp 3” is an alternate put in for the Cables run that avoids the first rapid, which is the run’s namesake, Cable rapid. Edison’s continued use of “Goldledge” and “Camp 3” in this proceeding is anachronistic. (And “Lickety Split” is the name of the segment below the KR3 powerhouse. Calling that segment “Powerhouse,” as Edison does, is confusing since “Powerhouse Rapid” is above and outside the Lickety run.

A [contemporary guidebook](#) cited by (but ignored by) Edison (See ISR REC-1 at 11) confirms KRB’s positions on both the names and numbers of river segments (note that “Limestone” and “Lickety” are outside the diverted stretch, leaving just the five segments we have identified):

UPPER KERN SECTION BREAKDOWN

The seven different sections are described below from the furthest upstream down towards Kernville. Click on the link to jump to their corresponding section

- **Limestone:** Class II, III and IV. Not impacted by the diversion dam. It does not continue into another run due to the diversion dam (mandatory takeout).
- **Fairview:** Class III. Impacted by the diversion dam. You can run into the next section, Chamise.
- **Chamise:** Class III and IV. Impacted by the diversion dam. It does not continue into another run due to Class VI Salmon Falls (mandatory takeout).
- **Ant Canyon:** Class III and IV. Impacted by the diversion dam. You can run into the next section, Thunder Run.
- **Thunder Run:** Class III, IV and V. Impacted by the diversion dam. You can run into the next section, Cables.
- **Cables:** Class II, III and IV. Impacted by the diversion dam. You can run into the next section, the Lickety Split.
- **Lickety Split:** Class II and III. Not impacted by the diversion dam. The regular takeout is in Riverside Park in Kernville, however, you can run into the lake too. most beginner run on the Upper Kern.

As does [another](#) contemporary guidebook, again in complete agreement with KRB (five dewatered segments / same naming conventions):

Fairview Run (Class III) begins just below Fairview Dam and is a great intermediate section with fun wave trains and boulder-strewn rapids.

Chamise Gorge (Class IV) is many boater's favorite section of the Upper, because of the more intimate, canyon setting and fun rapids such as Black Bottom Falls and Satan's Slot. Chamise is a scenic, technical, section of the Kern that strays from the road, providing the most remote run on the Upper Kern. Solid Class IV+ boaters can combine the Fairview Run with Chamise Gorge. Upper Salmon Falls (Class VI) marks the end of Chamise Gorge and is almost always portaged. Lower Salmon Falls is an expert-only Class V rapid.

Ant Canyon (Class IV) begins below Salmon Falls and is a short Class IV section. Ant Canyon is a great warm-up for the Class V Thunder Run that follows.

The Thunder Run (Class V) is steep and technical, dropping 63 feet per mile and providing world-class rapids such as Sock'em-Dog. Much of the run can be scouted from the road and Sock'em-Dog can be scouted from the river right.

The Thunder Run flows into the **Cable Run** (Class IV) and adds more whitewater excitement. Cable is straightforward and a great run for rafters and kayakers making the transition between from Class III to intermediate Class IV.

So does a [third](#) guidebook (five dewatered segments / same naming conventions).

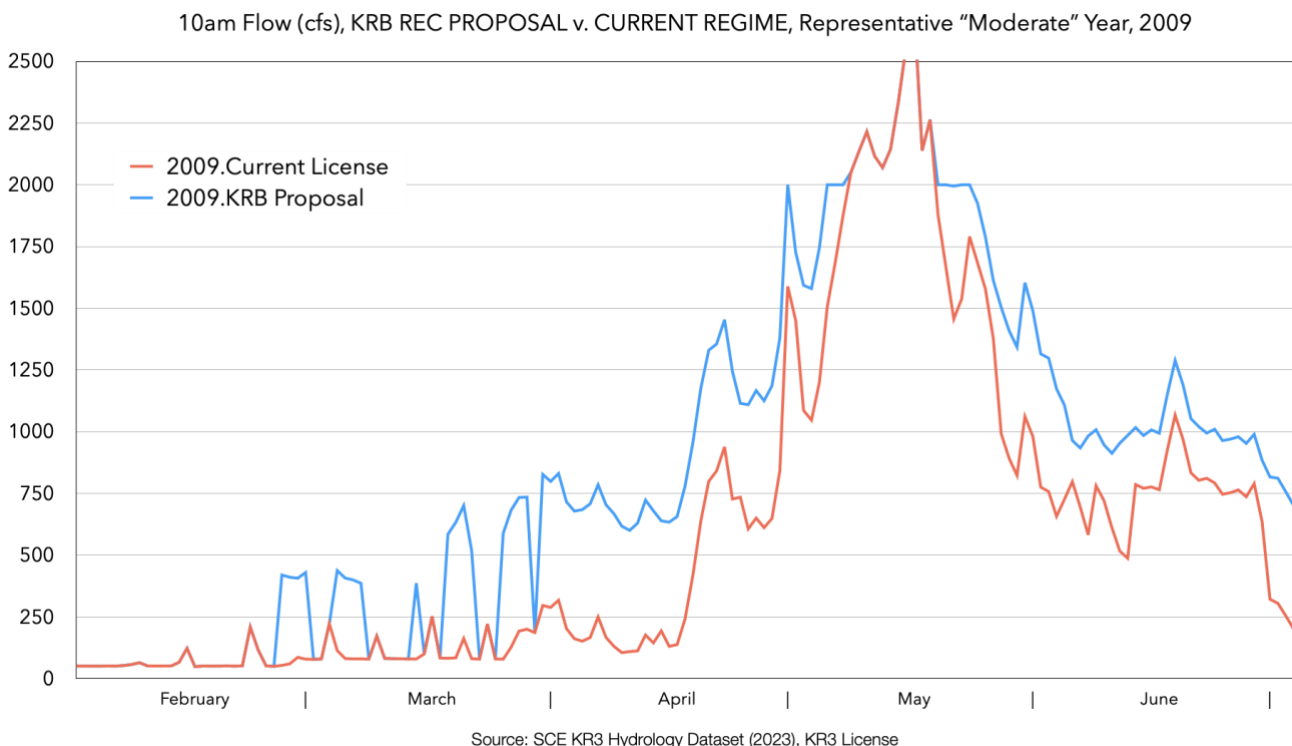
Edison's unconventional naming system and identification of eight dewatered river segments only serves to confuse and confound the issues in this proceeding. We ask that their recreation analysis be informed by the study process and bear some resemblance to the facts on the ground.

Again, this is a major Edison tactic: to proliferate issues rather than narrow and distill them to falsely suggest this river is too complex for and thus incompatible with a controlled flow study. As the existence of the 1994 study demonstrates, such a contention is untenable. The facts on the ground also show its falsity. Boaters routinely paddle multiple segments in the dewatered reach a day, given adequate flows, or paddle multiple "laps" of the same segment or two when flows are lower (or extremely high). This phenomenon of picking and choosing from a handful of 1-hour paddling segments — unfamiliar to paddlers from most other rivers — is a function of the incredible access and variety afforded by the 16-mile contiguous, dewatered stretch and its dozen or so roadside access points. Since each of the five segments can be paddled in about an hour — all of which can be combined with contiguous segments given adequate flows — it is more than ripe for a controlled flow study. More on that to come.

Edison's irregular conference room proceeding at the end of the L2 day was an attempt at division. There is simply no way to rank segment preferences in isolated, absolute terms. Those preferences depend on watercraft, skill level, and (equally if not more important) flow level — and some preferences may be equal, a result irrationally precluded by Edison's L1 SIQ. Even expert boaters who prefer the Thunder Run start choosing different segments when flows get too high. The same can be said of advanced boaters who otherwise prefer Chamise or Ant: when flows get too high, those boaters seek out another segment. Similarly, less skilled boaters may prefer Chamise or Ant when flows are on the lower side, and then return to Cables when flows reach more moderate levels. The variations in preference induced by craft, skill, and flow are endless and not capable of being represented in a single list.

Edison says it was seeking “common interests” among boaters. If it was, it is not fairly recounting them. Notwithstanding personal disagreements on flow preferences, every boater agreed that the current rec flow regime was unsatisfactory in scope and design — a non-starter going forward. Rather each participant agreed the next regime should be a fixed calendar of days (focused on the runoff season) during which the project would go offline regardless of inflow — whether daily with bubble releases or for long weekends if the tunnel could not supply bubbles. Boaters on the NF Kern are a sophisticated user base used to navigating the ever-changing hydrograph of impaired flows below Fairview Dam. They are not like those on the South Fork American, who paddle the same release level over and over again. Unimpaired flows in the dewatered reach based on a calendar during the runoff season with no regard for inflows was unanimously supported. Such a regime, when focused on the times water would be available (the runoff season) at levels nature intended, would maximize the incidence of everyone’s preferred levels.²⁹ Edison’s failure to report this critical point obscures the fundamental “common interest” takeaway from this study group. We again ask that Edison append these unfairly omitted details to the ISR and USR reports.

²⁹ For instance, stopping the diversion for a bubble during curtailment hours during early season weekends and every day of the solar glut months would only deny boater preferences to the extent that nature did not provide adequate flows; the denial would not be a result of the regime, but the regime would maximize opportunities across all groups:



KRB REC-1.6 Boating. Level 3 Mischaracterizations, Modification

EDISON: *Neither approach [L3 single flow or L3 flow comparison] recommends limiting group size to a single panel of experts.* (ISR Reply at 13.)

KRB: We agree that experts are *not* required, and we have never contended they are. However, the balance of Edison’s assertion is flatly contradicted by Whittaker; Whittaker’s Level 3 study approaches *do* require persistent panels.

The L3 Multiple Flow Reconnaissance Assessment (MFRA) approach — upon which Edison has based its Single Flow Survey (SFS)³⁰ — requires, according to Whittaker, “assessing multiple flows . . . *by panels or experts*,” the use of experts being preferred when “constraints make it difficult to assemble or maintain an evaluation panel.”³¹ That is far different from Edison’s SFS, which polls the general public.

The L3 Flow Comparison Surveys (FCS) requires, according to Whittaker, that the recreation consultant “*identify [a] panel of knowledgeable users and develop contact information.*” “*Panel development is critical*,” according to Whittaker, and this panel is “depend[ant] on the availability of knowledgeable users and an existing gage to which they are calibrated.”³² That is far different from Edison’s FCS, which Edison has stated will be open online and poll the general public — not a representative panel. The results of Edison’s approaches cannot rise to the level of resolution promised by a “Level 3” study — that’s why we are asking the Commission to direct Edison to stop characterizing their SFS and FCS as “Level 3” studies.

EDISON: *On the contrary, these approaches are recommended where it is difficult to maintain a consistent panel to evaluate a range of flows.* (ISR Reply at 13.)

KRB: That’s not what Whittaker says. To the contrary, Whittaker specifically suggests restricting the panel to a group of experts when panel persistence is an issue; and when persistence is not at issue, a panel — not a public poll — is required.³³ Edison has not shown it difficult to maintain a consistent panel here, nor could it given the large volume of boating and boaters on the North Fork Kern.

EDISON: *This approach is recommended where there is an inability to control flows.* (ISR Reply at 13.)

³⁰ Edison: “The single flow survey is the Multiple Flow Reconnaissance Assessment approach described in Whittaker et al. (2005).” (ISR REC-1 at 51.)

³¹ Whittaker (2005) at 22

³² Whittaker (2005) at 24

³³ Whittaker (2005) at 22 [experts are preferred over a more inclusive persistent panel when “constraints make it difficult to assemble or maintain an evaluation panel”]

KRB: Edison’s arguments are routinely populated with sweeping assertions without citation to authority or supporting analysis. Whittaker never says that the inability to control flows somehow weakens the requirement of a persistent, knowledgeable panel for a Level 3 study. Nor does Whittaker state that an “inability to control flows” requires an SFS or FCS approach. Whittaker specifically states that controlled flow studies may be performed where there is “Lack of upstream storage [constraining] flow control”³⁴ — so lack of storage can’t be a reason we can’t have a controlled flow study. Moreover, Edison maintains a significant and meaningful ability to control flows below Fairview Dam, as it acknowledges with its “flow enhancement” proposal³⁵:

Table 3-1. Potential Flow Enhancements for Boater Evaluations in 2024

Flow Enhancement Number	Approximate Flow Enhancement Volume (cfs) ^a	River Segment(s)
1	200	Sidewinder, Fairview, Chamise, Goldledge, Thunder Run, Camp 3, Riverkern, Powerhouse
2	400	
3	600	

Flow Enhancement Number	Approximate Flow Enhancement Volume (cfs) ^a	River Segment(s)
4	800	

cfs = cubic feet per second

Note:

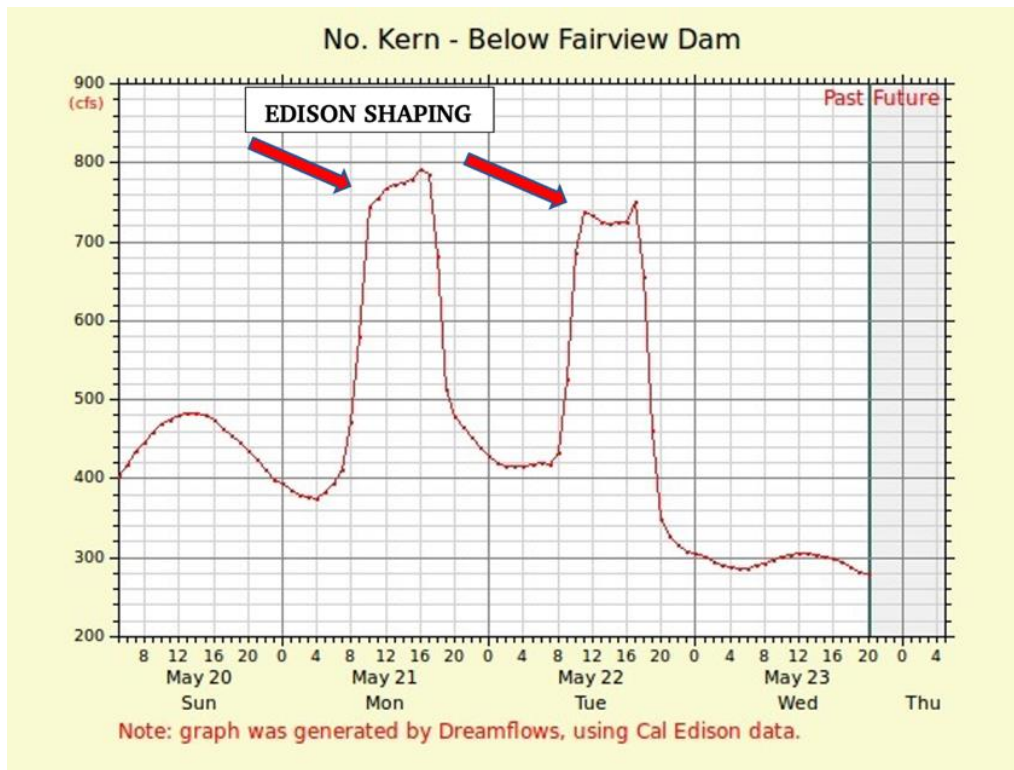
^a flows measured at SCE Gage No. 401 (Kern River below Fairview Dam)

Call those targeted flows or enhanced flows or shaped flows or whatever you like, but at the end of the day the proposed flows as described by Edison are being controlled by

³⁴ Whittaker (2005) at 26.

³⁵ ISR Attachment A at 27-28.

Edison. It has the ability to do that up to 600 cfs, just like it does to comply with the current rec regime (example from May 2018):



EDISON: *These approaches encourage broad outreach to ensure a larger heterogeneous sample size representative of the whitewater users. (ISR Reply at 13.)*

KRB: Again, the ability of Level 3 studies to get greater degrees of reliability and resolution than Level 1 surveys of the general public is founded on their use of a persistent panel of representative boaters personally familiar with the flows at issue. Panels of boaters, moreover, should not be heterogeneous for heterogeneity’s sake — Whittaker never says that — but should instead strive to be *representative* of the boaters who use the river and are most squarely affected by the project’s dewatering of this river. On the issue of minimum acceptable flows, for example, it makes no sense *in the evaluation of real-world project effects* to equally value the opinion of a person who live far away and would only travel to the Kern under ideal conditions³⁶ and that of a Southern Californian — especially when tens of thousands of Southern Californians would gladly paddle under less-than-ideal flow conditions if that’s all nature was providing. Hence, Whittaker’s touchstone of representative panels.

³⁶ For instance, because they live hundreds of miles away and have a panoply of closer boating alternatives.

KRB REC-1.7 Boating. Controlled Flow Study, Modification

Edison: *The REC-1 Whitewater Study proposes using flow enhancements to target information gaps in boater knowledge of flow preferences. SCE objects to labeling this approach as a controlled flow study because it fails to meet the criteria described in Whittaker et al. (2005). (ISR Reply at 13.)*

KRB: This comment (KRB REC-1.7) is not directed at Edison’s proposed “flow enhancements”; rather, it is squarely directed at Edison’s lengthy contention in the ISR that a controlled flow study is not feasible in the diverted reach. We take this opportunity to point out that any purported problem of “knowledge gaps” — again, a phrase never uttered by Whittaker³⁷ — *disappears* with the performance of a controlled flow study, since participants actually paddle the flows at issue.

Edison: *Controlled flow studies are best suited for short bypass reaches where flows can be controlled to provide a range of flows in a 2- to 3-day period for a team of boaters to evaluate each flow in succession under similar conditions to eliminate other variables (Whittaker et al., 2005) The Project is not able to meet these requirements for a controlled flow study. (ISR Reply at 13.)*

KRB: This is false. Whittaker states plain as day that “Three to four flows are commonly assessed in these studies.”³⁸ That is more than two or three, and his use of the word “commonly” implies that *more* may be in order and compatible with the term “controlled flow study.” Whittaker, again: “Choosing the number and increments of flows is a case-by-case decision.”³⁹ At no point does Whittaker state a controlled flow study may only involve two or three flows and must be performed over a long weekend.

Nevertheless, we believe that just three flows would be needed to set the minimum acceptable flow for various watercraft on the NFKR. Optimal flow curves have not been raised as a pressing issue in this proceeding — no one has challenged the optimal flow results of the 1994 study — and we believe optimal flow curves can be produced from Edison’s survey methodologies.

Whittaker says, “Controlled flow studies work best when they are focused on discrete flow ranges where more precision is needed, and where boating is expected to be possible and safe.”⁴⁰ Those criteria are met here; this incredibly popular and important river for Southern California needs a reliable, 40-year resolution of the minimum acceptable flow issue, and one can be obtained with a controlled flow study. Edison has budgeted \$6.1

³⁷ A search of FERC’s eLibrary for “knowledge gaps” NEAR50 whitewater reveals just 21 hits, many inapposite and more than half generated in the KR1 & KR3 proceedings.

³⁸ Whittaker (2005) at 26.

³⁹ Whittaker (2005) at 26.

⁴⁰ Whittaker (2005) at 27.

million⁴¹, and estimated study costs — many of which appear exaggerated — amount to less than \$2.2 million:

	SCE RSP	FERC SPD	TOTAL
WR-1	\$65,000.00	\$5,500.00	\$70,500.00
WR-2	\$70,000.00	\$7,500.00	\$77,500.00
BIO-1	\$100,000.00	\$15,000.00	\$115,000.00
BIO-2	\$50,000.00	\$3,500.00	\$53,500.00
BIO-3	\$80,000.00	\$10,500.00	\$90,500.00
BIO-4	\$70,000.00	\$2,500.00	\$72,500.00
BIO-5	\$60,000.00		\$60,000.00
BIO-6	\$32,000.00	\$3,500.00	\$35,500.00
BOT-1	\$140,000.00	\$3,500.00	\$143,500.00
REC-1	\$100,000.00	\$2,000.00	\$102,000.00
REC-2	\$200,000.00	\$9,600.00	\$209,600.00
REC-3	\$40,000.00		\$40,000.00
EJ-1		\$50,000.00	\$50,000.00
CUL-1	\$650,000.00		\$650,000.00
TRI-1	\$95,000.00		\$95,000.00
LAND-1	\$75,000.00		\$75,000.00
GEO-1	\$52,000.00		\$52,000.00
SOCIO-1	\$50,000.00		\$50,000.00
OPS-1	\$75,000.00		\$75,000.00
TOTAL	\$2,004,000.00	\$113,100.00	\$2,117,100.00

Edison: *Fairview Dam is incapable of controlling the full range of flows or setting a date for a consistent team of boaters to evaluate each of the flows using a single flow survey form and then complete a final flow comparison survey form. Fairview Dam can only enhance a narrow range of flows and, at best, provide a 2- to 3-day advance notice. As a result, this should not be described as a controlled flow study. Incorrectly calling this a controlled flow study when it fails to meet the definition will add further confusion for future hydroelectric license proceedings. Adhering to definitions in the literature will help improve standardized approaches and consistency with data collection standards. (ISR Reply at 13.)*

KRB: Contrary to Edison’s argument, the configuration of Fairview dam does not preclude a controlled flow study fully compliant with Whittaker. Whittaker specifically states that controlled flow studies may be performed where there is “Lack of upstream storage

⁴¹ See *ante*, at p. 3: Introduction

[constraining] flow control”⁴² — so lack of storage can’t be the reason we can’t have a controlled flow study. As noted above, Whittaker calls for the study of three or four flows — we believe three are required here but would be happy to submit to the examination of more. Edison avers that it can only provide two- or three-days’ notice of targeted flows. But that is a bare assertion unsupported by evidence or analysis. Edison retains the ability to change water levels below Fairview Dam by 600 cfs — that’s significant. KRB took the daily average flow data from the last 25 years and found the following average numbers of days upon which different flow ranges could be tested annually⁴³:

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
200	299	4780	191
300	399	3276	131
400	499	2184	87
500	599	1757	70
600	699	1461	58
700	799	1218	49
800	899	1014	41
900	999	933	37

To this day, Edison has failed to engage these facts. Further, short notice is not, as Edison asserts, incompatible with a controlled flow study. As Whittaker says, “Many [controlled flow] studies require careful timing and contingency plans” and “close coordination with stakeholder groups.”⁴⁴ And, as Whittaker pointed out above, a controlled flow study can take place on a dewatered reach that lacks upstream storage, which necessarily requires shorter notice than a study of a reach with massive storage. Finally, Edison’s current REC-1 consultant touted the 1994 study *to this Commission* as a shining example of a “Controlled Flow Whitewater Stud[y]” like others that “have been undertaken in the relicensing of numerous FERC projects”⁴⁵ — if a controlled flow study has been performed before, it can be performed again:

⁴² Whittaker (2005) at 26.

⁴³ Spreadsheet available:

https://www.kernriverboaters.com/s/KRB_KR3_SHAPE_FLOWS.xlsx

⁴⁴ Whittaker (2005) at 26.

⁴⁵ FERC Accession No. 20030423-5019 at 11. For an examination of other positions Edison is taking in direct opposition to those its consultant previously supported before this agency, see: <https://www.kernriverboaters.com/blog/gangemi>

for evaluating instream flows for whitewater recreation because it takes place over a short period of time, allowing consistency among participants for flow comparisons, the exact flows are quantified and the user group serves as the study participants. Controlled Flow Whitewater Studies have been undertaken in the relicensing of numerous FERC projects.

This list includes but is not limited to the following FERC licensed projects: Chelan, FERC No. 637; Stanislaus -Spring Gap, FERC No. 2130; Bearsdley-Donnells, FERC No. 2005; Upper North Fork Feather, FERC No. 2105; Poe, FERC No. 2107; Nantahala, FERC No. 2692; West Fork Tuckasegee, FERC No. 2686; Tapoco, FERC No. 2169; Nisqually, FERC No. 1862; Rock Creek-Cresta, FERC No. 1962; and North Georgia, FERC No. 2354; Moosehead Lake, East Outlet, FERC No. 2671; Sullivan Creek, No. 2225; Bear River, No. 2401; Kern 1 & 3, No. 1930 & 2290; Mokelumne, No. 137; and Pit 1, No. 2687.

We reiterate that the dewatered reach of the NF Kern deserves the best science available to determine its potential for recreational use. No one can deny that this is a world-class whitewater resource designated Wild & Scenic serving 25 million Southern Californians. We have seen that the central tendency of this project is to remove more than half the boatable days from this population — most of which occur during the spring runoff when the NF Kern is the only river running for Southern Californians. It also denies boaters more almost all natural flow days. The boaters who know the NF Kern best and bear the lion's share of project effects — those locally and those from Southern California — show up weekend after weekend during the runoff season when impaired flows are sufficient. Many are available to be there on short notice and for extended weekends. Edison can form a representative panel from that group with our help, and we can help identify some volunteers to represent Northern California and beyond — who, it must be conceded, do not bear the full brunt of project effects because they have far closer alternatives. Southern Californians do not.

Finally, Edison again proposes to “opportunistically” “enhance flows” at “specific flow ranges” and “give notice” to “encourage additional boater use.” (ISR REC-1 at 8 & 52.) Edison's flow enhancement scheme has most of the core elements of a controlled flow study: a typically dewatered reach, eager boaters from which a panel *could* be established, an evaluation tool, and a range of flows identified for study, and the provisions of those

targeted ranges provided by the utility. What's missing is only Edison's willingness to ensure a persistent, representative panel and bear the cost of administering a real controlled flow study instead of ever-more bites at survey data? Edison has set aside \$6.1 million for this relicensing from proceeds of the diversion at Fairview Dam. It should have to spend what it takes on the best science available for determining flow preferences on the river it dewater.

KRB REC-1.8 Boating. SFS Reopening, Modification

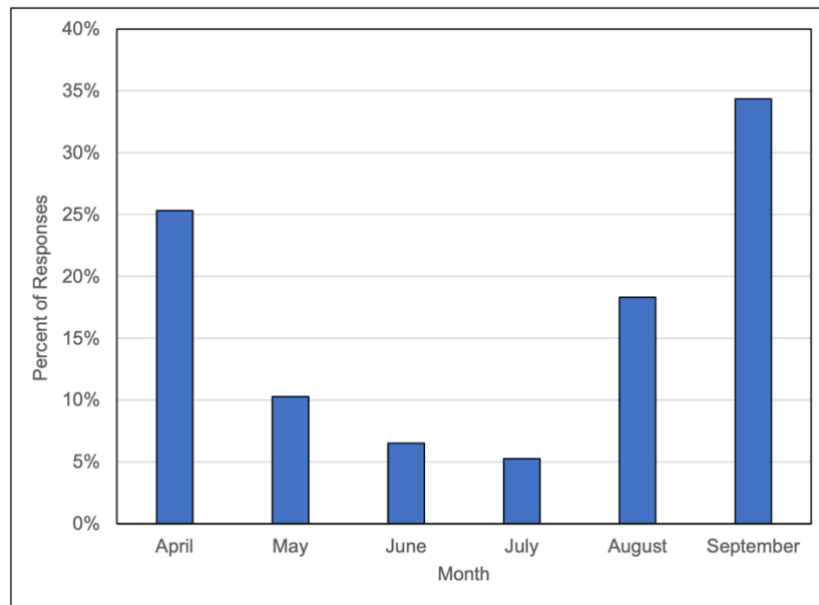
Edison: *In the first quarter of 2024, SCE will provide an addendum to the REC-1 Whitewater Technical Memorandum that includes analysis of the single flow survey and structured interview questionnaire. This analysis, coupled with the information reported for the Level 2 Limited Reconnaissance in the ISR, will be used to determine if gaps exist in boater experiences for specific flow ranges impeding their ability to assess minimum acceptable and optimum flows in the respective river segments. If boater knowledge gaps are identified then SCE will utilize flow enhancements, as described in the REC-1 Whitewater Study, to target flows where boaters lack direct experience to determine flow preferences. The single flow survey tool is necessary for boaters to rate the individual flows they boat that are designed to target knowledge gaps. Without the single flow survey, SCE would have no way to document boater's evaluations of the targeted flows. Using the Level 3 single flow survey in 2024 is consistent with the FERC approved study plan and not a study modification as KRB suggests. The single flow survey is not a separate study unto itself as KRB asserts, but rather part of the Level 3 Intensive Study continuing into 2024 as specified in the REC-1 Whitewater Study RSP. Furthermore, there are no restrictions in the REC-1 Whitewater Study RSP limiting the opening and closing of the single flow survey. The purpose of the single flow survey tool is to collect boater evaluations of flow conditions in the river segments. It is odd that KRB opposes SCE collecting these flow evaluations from the boating community. Using the single flow survey tool for this purpose is consistent with the FERC SPD for the REC-1 Whitewater Study. (ISR Reply at 13.)*

KRB: Since this was written, Edison has stated it will reopen the single flow survey in conjunction with “enhanced flows targeting knowledge gaps in boater experience.” (ISR Attachment A at 27.) This proposal remains at odds with the approved study plan. The single flow survey (SFS) — as described in the RSP, approved by the SPD, and reaffirmed in the ISR — was only supposed to be open “through the remainder of 2023.” (ISR REC-1 at 50) The RSP never mentioned the prospect of reopening the SFS, nor did the SPD. Reopening that methodology this year — and only at levels where there are purported “knowledge gaps” — amounts to a second bite at survey data. It is plain that Edison does not like the results of its L1 SIQ. (See ISR Attachment A at 14 [“The minimum acceptable flow estimates from respondents should be used with caution. Respondents provided estimates to an open-ended question”].) Nor does it like the results of the 2023 SFS, which shows an overwhelming number of responses at flows below 700 cfs, yet Edison neglects to publish the resultant preferences. Edison has simply not shown those results to be inadequate and in need of second-bite supplementation.

Edison is currently saying that purported “knowledge gaps” are to be determined solely with reference to the results of the L1 SIQ and L2 focus group (more SIQ) studies: “Based on the data collected in Levels 1 and 2, SCE will provide enhanced flows designed to target knowledge gaps in boating flows,” it says. (ISR Attachment A at 27.) However, we

have had a full range of boating flows on the NFKR *since* Edison collected the data from those L1 & L2 studies. During that full range of flows, Edison continued collecting data through the SFS. For some unstated reason, Edison has unilaterally determined *not* to use the data from the SFS in the identification of knowledge gaps — even though many (and potentially, most) boaters who *initially* identified gaps in their SIQ responses may have *subsequently* boated at gap levels and memorialized them in their SFS responses. Edison has made no effort to report on the SFS data to determine whether purported “knowledge gaps” have been filled.

The record indicates gap-filling is likely. Edison’s chart of SFS responses shows the highest rate of response in September, when flows were in the “knowledge gap” range it currently seeks to re-study:



(ISR REC-1 at 51.) Edison’s consultant announced during the October 17, 2023 ISR meeting that he’d never collected as many survey responses as he had in this SFS. And the recently reported 2023 SFS shows a disproportionate share of responses at flows below 700 cfs. (SFS Addendum at 16-17.) The record accordingly reveals no basis for reopening the SFS save for Edison’s dislike of the results to date and its desire for a second shot at data collection — the essence of p-hacking.

This conclusion is further underlined by Edison’s belated *exclusion* of the SFS as a basis for determining knowledge gaps. As noted above, the ISR L1 Supplement states that *only* the L1 and L2 SIQs will be used to determine gaps. Edison had a much different take in the ISR, specifically stating: “SCE will analyze *the single flow survey data*, in combination with results from Levels 1 and 2, to determine if there are gaps in the boating community’s knowledge or experience to evaluate specific flows.” (ISR REC-1 at 52 (italics added).)

Edison offers no reason for its decision not to use the 2023 SFS for determining whether knowledge gaps exist. This — its decision *not* to use the 2023 SFS to infer “knowledge gaps” — is at variance from the plan.

At bottom, Edison has provided no evidence that the SFS needs reopening. We have “the largest number of responses ever” in the 2023 SFS and the bulk of them were at flows Edison targets for reopening. Edison offers no analysis that “quantitative data does not exist for developing flow preference curves,” which is the standard it set for reopening. (ISR REC-1 at 52.) In fact, based on participation rates in the SFS, it is far more reasonable to infer a need for qualitative data at flows *higher* than the flows it proposes for reopening. Edison’s proposed reopening is nothing but an attempted second bite at the apple for data at flow ranges Edison has from the earliest moments of this proceeding fought to exclude as boating days lost to the project. That is not science.

Edison: *Interestingly, KRB opposes SCE collecting additional flow evaluations from the boating community using the single flow survey but in a previous comment advocates for a controlled flow study. Controlled flow studies utilize a single flow survey to document participant responses to individual flows following each release and a flow comparison survey at the end of the study to document participant evaluations across a range of flows (Whittaker et al., 2005). The inconsistency in KRB’s requests clearly demonstrates their lack of command and knowledge of the different levels of study and associated approaches described in the publication, Flows and Recreation: A Guide to Studies for River Professionals (Whittaker et al., 2005). Acquiescing to KRB’s uninformed request for a controlled flow study that fails to meet the definition will add further confusion for future hydroelectric license proceedings. (ISR Reply at 14.)*

KRB: There is no inconsistency. We oppose reopening the SFS for a second bite at data collection at ranges where Edison dislikes the results to date. We instead favor a controlled flow study, as we and every other boater who has commented on the issue have from the outset of this process. A controlled flow study promises the most reliable resolution of flow preferences through use of a representative, persistent panel of boaters who have floated each flow. Casting about aspersions such as “uninformed” and “lack of command” underlines the weakness of Edison’s position. Commission staff have properly failed to apply the “Level 3” characterization to Edison’s open survey methodologies, for they fail to comport with the *sine non qua* of Level 3 studies — persistent, representative panels that produce far more accurate results than open surveys. Edison acts as if it can overcome this core deficiency by improperly calling its study methodologies “Level 3 Intensive” over and over again and by appealing to Commission staff outside the stakeholder process to the

same end.⁴⁶ We again ask that the Commission reject Edison's attempt to reopen the SFS study for a second bite at data collection.

⁴⁶ On December 13, 2022, Edison wrote Commission staff the following email outside the ILP stakeholder process, resulting in an *ex parte* meeting that was not transcribed:

From: David Moore <David.Moore@sce.com>

Sent: Tuesday, December 13, 2022 4:28 PM

To: Quinn Emmering <Quinn.Emmering@ferc.gov>

Cc: Jillian Roach <Jillian.Roach@erm.com>

Subject: Kern River No. 3 (P-2290) Study Plan Determination - SCE Request for Clarification

Quinn,

SCE would like to schedule a call with you (and other FERC staff as applicable) to discuss a few of the Staff comments and recommendations made in FERC's Study Plan Determination (Oct 12, 2022).

Specifically, SCE and our technical study leads would like to discuss the following:

- REC-1 Whitewater Boating Study Plan (WW Study)
 - FERC incorrectly concludes that SCE is not initially planning to conduct a Level 3 intensive study. On the contrary, the REC-1 WW Study describes the methods and timing for a Level 3 Intensive study. Furthermore, as described in the REC-1 WW study, SCE is proposing to conduct a Level 3 intensive study regardless of results from Levels 1 and Levels 2 in the study progression. As such, SCE does not need to evaluate if a Level 3 is needed in the ISR, but rather SCE will report out on the status of the ongoing study that will be initiated in the summer of 2023, with results reported out in the USR (Oct 2024) including the results from the Level 3 effort.

KRB REC-2.1 Use. Trail Cameras, Modification

Edison: *Throughout May 2023, SCE consulted with the USFS-SQF regarding the placement and location of the cameras to identify suitable locations for installation, with a focus on parking areas.* (ISR Reply at 26.)

KRB: Edison has provided no evidence of its May 2023 consultation with the Forest focused on parking areas. In fact, this assertion of consultation is undermined by the demand letter from Forest Supervisor Benson: *“It has come to my attention that [Edison] has installed video cameras”* at eleven SQF “campgrounds,” she wrote in late August that year. (ISR REC-2 at .pdf p. 687 (italics added).)

Edison: *As the landowner, the USFS has the right to request removal of cameras on their lands. . . . However, the recreation site layout and landscape (i.e., wide open spaces or main driveways and parking areas adjacent to many camp sites) does not lend itself to focus only on parking areas.* (ISR Reply at 26.)

KRB: USFS is the manager, not owner, of the lands in question, and is open to persuasion in the public interest. Edison has produced no evidence that it either (1) attempted to argue in favor of the public interest to the Forest, correcting its mistaken understanding of the two-party law or (2) attempted to reconfigure the camera network so that only parking lots and trail and river access points — no tent sites or restrooms; no place where there could be any expectation of privacy — were filmed and thus be acceptable to the Forest. What we have learned is that Edison was not interested in the camera scheme from the outset. In December 2023 — a half-year before the campsite privacy issue was raised — Edison arranged an irregular *ex parte* teleconference with Commission staff in an attempt to eliminate the SPD’s camera requirement absent any stakeholder input.⁴⁷ When that failed,

⁴⁷ *Ex parte* email from Edison to FERC staff that was not contemporaneously disclosed in apparent violation of FERC regulations. (<https://ferc.gov/sites/default/files/2020-04/feedback.pdf> at 41):

Edison tried to offer stakeholders an unacceptable scaling down of the camera requirements to six from an initial requirement of between 26 and 30. (ISR REC-2 at .pdf. pp. 680 &

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- REC-2 Recreation Facilities Use Assessment
 - FERC's recommendation to install camera's at the various recreation sites to capture visitor use and count information. SCE has some concerns about the installation (primarily vandalism/theft) during the year-long collection of video imagery. SCE would like to discuss an alternative approach to collecting this visitor use information so that SCE may collect information that will meet the objectives for the requested study modification.
 - We would also like to better understand FERC's rationale for sampling on the additional 5 holiday dates that occur over the non-peak recreation winter/shoulder season.
- GEO-1 Erosion and Sedimentation Study
 - SCE would like to confirm that there are no Staff recommended modifications to the GEO-1 Study, and the study plan should be "approved". In Table A-1 of the Determination, the table column "Approved with Modifications" was checked for this study; however, we did not see any proposed staff modifications described in Appendix B.

Please call me at your earliest convenience so we can discuss any questions you have and to schedule a time for a broader team call.

Thank you,

David Moore

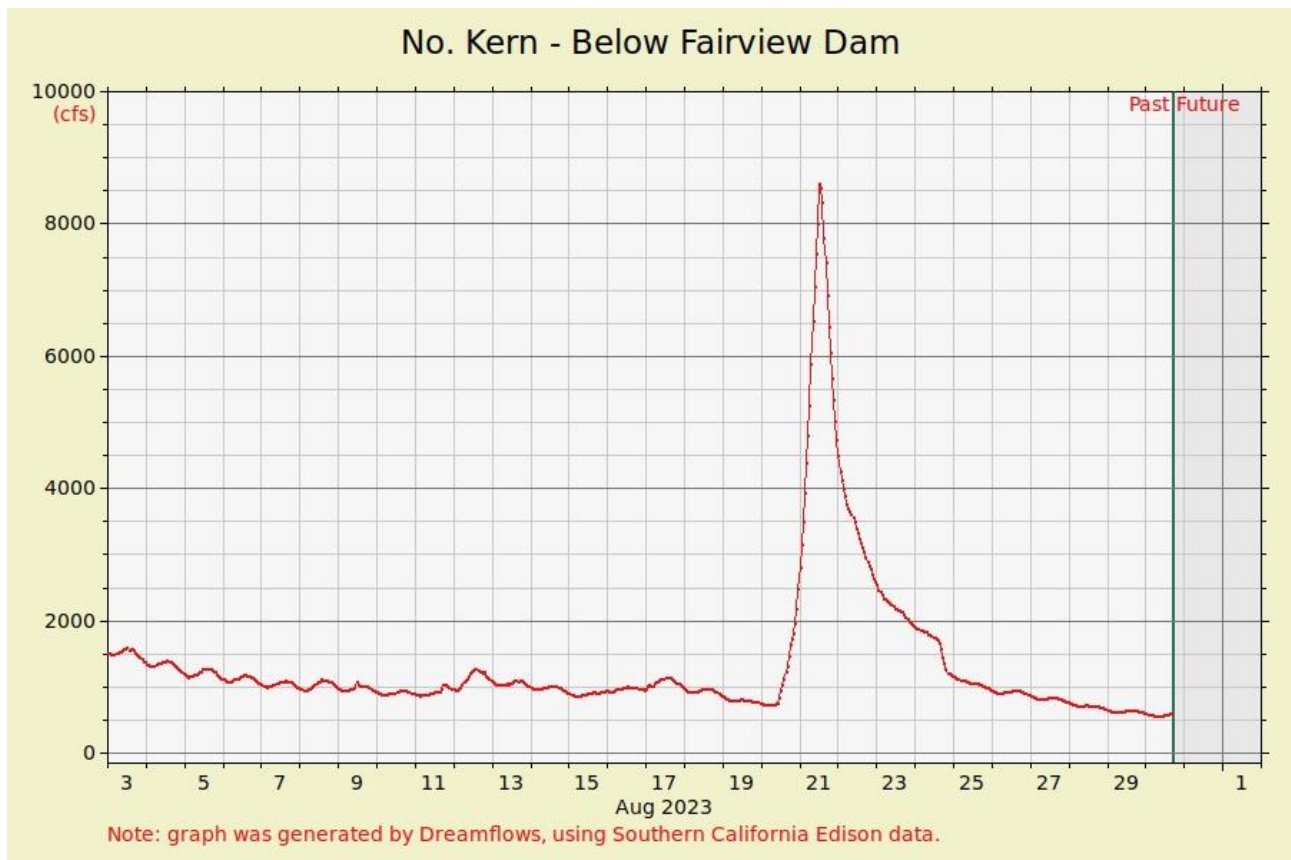
Hydro Licensing, Regulatory Sr. Advisor
Generation – Regulatory Support Services
T. 626-302-9494 | M. 626-861-5918 (new)

685.) Only then did the privacy issue arise and, on this record, Edison took no steps to pursue and secure the public interest, for it had no motive to do so. In this context, Edison's unsupported assertions about the feasibility of monitoring parking areas should be rejected. We ask that the Commission direct Edison to carry out the REC-2 trail camera mandate in the public interest as directed in the SPD with the modifications described in our initial ISR comments.

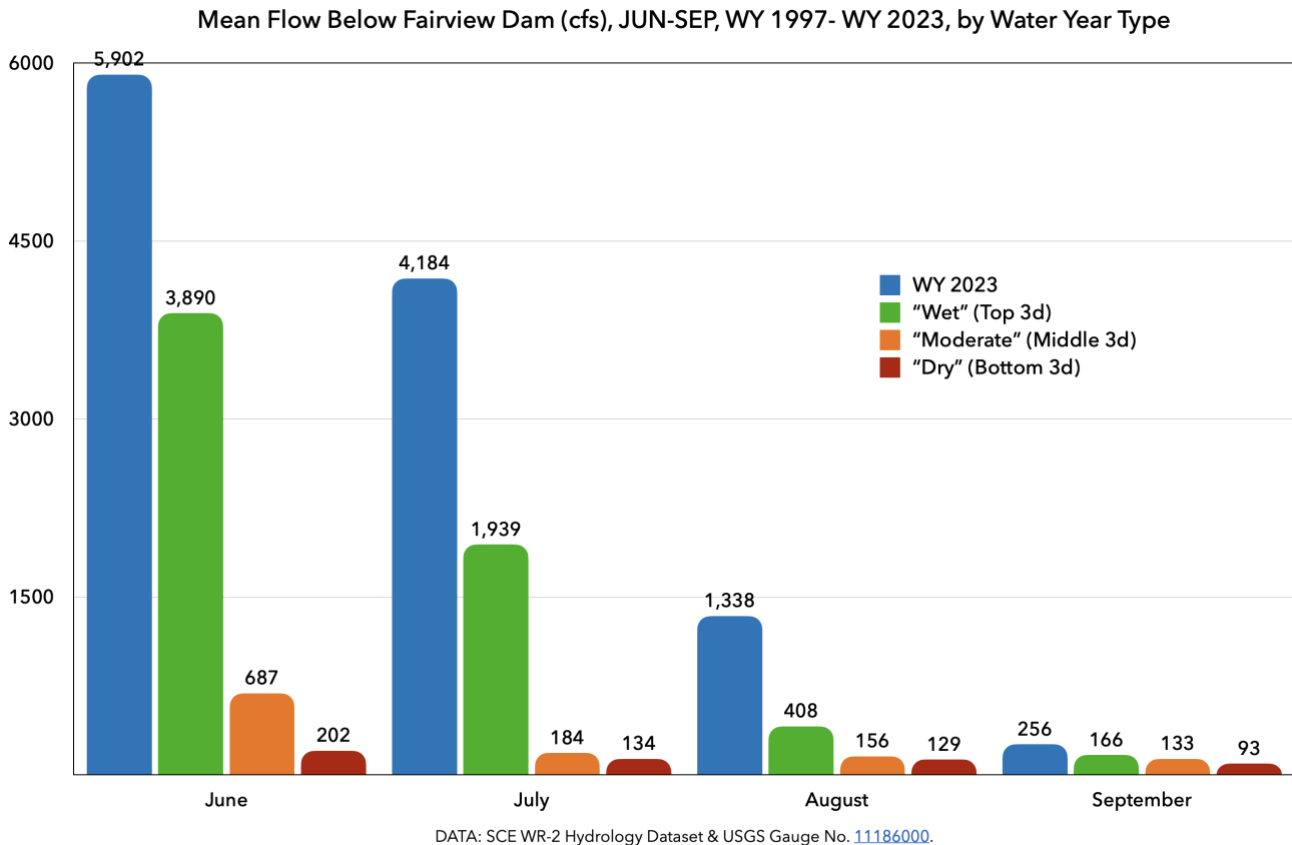
KRB REC-2.2 Use. Atypical Year, Modification

Edison: [A]nother season of recreational use data collection (through September 2024 as requested by KRB) is unlikely to result in findings that are substantially different than the previous 12 months (i.e., the current 12-month study period). (ISR Reply at 27.)

KRB: Edison’s assertion that results would not be substantially different is conjecture and offered with neither evidence nor analysis. It is uncontroversial that the project’s peak effects on recreation are seen near or at the MIF. Last year — the highest water year by far over the current license term — the diversion at Fairview Dam did not drop flows below it to MIF levels until the last half of September. That is wholly unlike median years where fish flows set in by early July, and low water years where they set in early June. Campers, hikers, sightseers, angler, and boaters are thus *typically* confronted with flows near the MIF (130 cfs + buffer) for most or all of the summer. That was far from the case during last year’s anomalously high snowpack and lengthy runoff season. To take but one example, flows below Fairview Dam are typically around 150 cfs in August but remained well over 500 cfs that month last year:



For a broader perspective, we used the KR3 hydrology dataset (WY1997-2022) and USGS data (WY2023) to obtain daily mean flows below Fairview Dam. We then segregated those 27 water years into three equal groups of nine — wet, moderate, and dry years. We then calculated the mean flow below Fairview Dam for each of the summer months within each water year type and compared those figures with those from 2023. Here is the result⁴⁸:

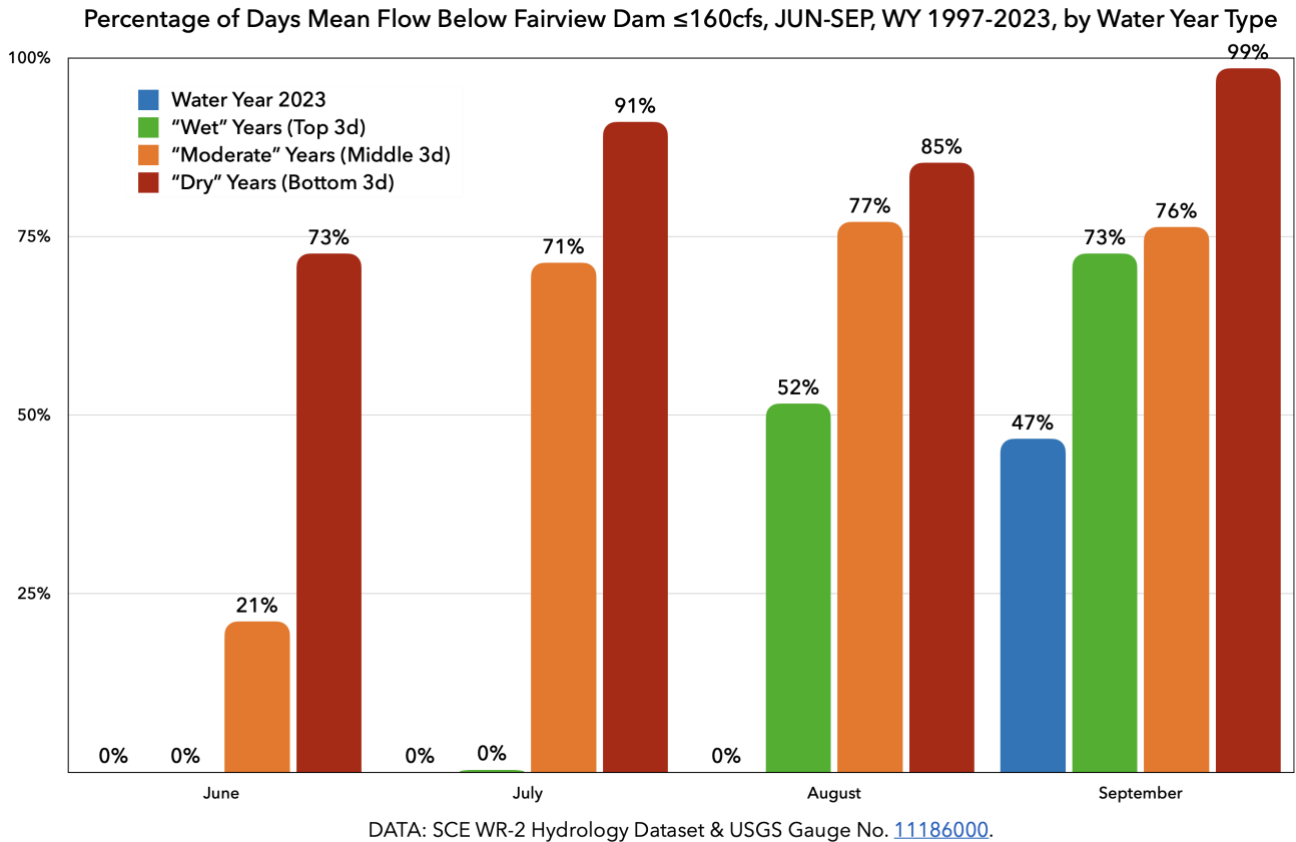


As vividly apparent, the figures for 2023 are well above even the “wet” year averages and absolutely dwarf the moderate and dry year averages.

We applied the same methodology to determine the percentage of days per month flows were at or near fish flow (under 160 cfs), by summer month and water year type⁴⁹:

⁴⁸ Chart, methodology, and supporting data available at [this Apple website](#) (Sheet 21, “Atypical WY 2023”).

⁴⁹ Chart, methodology, and supporting data available at [this Apple website](#) (Sheet 21, “Atypical WY 2023”).



This data shows that flows near the MIF generally set in below Fairview Dam by early June in dry years and by early July in moderate years. They did not set in during 2023 until late September — two to three months later than usual, and well after the summer recreation season was over. Results from summer 2023 REC-2 studies are accordingly results from a river that, quite literally, almost never exists. The data shows that a vast majority of the time summer recreators are confronted with hydrology near or at fish flow — far, far, far below the levels they were gifted in 2023. Conditions in summer 2023 were extremely anomalous and merit the extension of the REC-2 study through September 2024, at a minimum. FERC specifically tells the public: “section 5.15 (d) of the ILP permits stakeholders to request additional years of study if good cause is shown. Good cause could include equipment failures, drought, new endangered species listings, etc.”⁵⁰ Surely a 50-year deluge as seen in WY2023 is as anomalous or out of the ordinary as drought, which occurs with much greater frequency. Edison’s assertion to the contrary should carry the weight of the evidence and analysis it is based on — none.

⁵⁰ <https://www.ferc.gov/sites/default/files/2020-04/AGuidetoUnderstandingandApplyingtheIntegratedLicensingProcessStudyCriteria.pdf> at 13

KRB REC-2.3 Use. Survey Participants, Modification
KRB AES-1.1 Aesthetics. L1 Survey Participants, Modification
KRB ANG-1.1 Angling. L1 Survey Participants, Modification

EDISON: *The REC-2 visitor questionnaire was expressly and intentionally designed to capture input from actual, current visitors to the Project area. (ISR Reply at 27.)*

KRB: The SPD could not have been more clear that the survey was supposed to “reach a greater number of respondents, who live locally but also who live in other areas of California, *that are familiar with the . . . character and flows of the bypassed reach.*” (SPD at B-31.) The L1 REC-2 survey excludes visitors “familiar with the area” if they chose not to visit during the study period. In stark contrast, the L1 REC-1 survey did not: It was open to the general public and polled their perceptions even if they had not visited the dewatered reach during the study period. Edison’s argument fails to confront these facts.

EDISON: *Since the REC-2 study, including its aesthetics and angling components, is still being implemented consistent with the approved study plan, it is premature to initiate a Level 2 or 3 study at this time. (ISR Reply at 27.)*

KRB: We understand the phased approach recommended by Whittaker (which Edison did not follow in REC-1), but it is now too late to implement an online survey capable of fairly informing the question of whether to proceed to a L2 investigation. Since Edison designed the online survey instrument in a manner that improperly limited public participation, the Commission should direct the commencement of an L2 study.

KRB REC-2.4 Use. Survey Locations, Modification
KRB AES-1.2 Aesthetics. L1 Survey Location, Modification
KRB ANG-1.2 Angling. L1 Survey Location, Modification

EDISON: *There is no variance [T]he first question of the survey lists all 25 sites within the FERC Project Boundary, including the sites upstream of Fairview Dam (Johnsondale Bridge River Access, Brush Creek Campground, Limestone Campground, and Willow Point Take-Out), as required by FERC’s direction in the SPD. (ISR Reply at 29.)*

KRB: This answer does not prove the absence of a variance. Edison buried the fact the online survey was applicable to sites above Fairview Dam in a drop-down menu that had to be clicked to be read. But no reasonable person who recreated above Fairview Dam would have had occasion to click that drop-down menu because both (1) in the survey description (both online and on the QR code flyer) and (2) in the first page of the survey itself, Edison plainly stated that the survey *only applied to recreation below Fairview Dam*. The fact that Edison has subsequently corrected those two variances only serves to corroborate our claim that they were in variance with the SPD.

Edison has consistently shown hostility to the prospect of fairly studying project effects above Fairview Dam. It did not include the study of such in its proposals; it objected to stakeholder requests for such study; and after the SPD required cameras above Fairview Dam, Edison proposed placing just one — and placing it in a location that would miss the entire story of project effects. (See ISR REC-2 at .pdf p. 668-670.) That hostility spilled over into its execution of the online survey — until KRB unearthed it and Edison belatedly corrected it. We are facing yet another season of overcrowding above Fairview Dam due to project effects so severe that the Forest has proposed limiting parking at Johnsondale Bridge to boaters only — to the exclusion of and at the expense of the general public, including hikers, campers, anglers, and day users.⁵¹ We again ask that this variance be corrected by immediately proceeding to a Level 2 investigation into angling and aesthetics. Good cause exists in that Edison was wholly at fault for this critical variance from the study plan and the direction of the SPD. It is too late to conduct a corrected one-year online survey, report on it (including a L2/L3 decision), take stakeholder comment, rule on the report and comments, and still have time to implement meaningful L2/L3 studies with stakeholder input prior to the FLA. For these reasons, the Commission should grant our request.

⁵¹ Al Watkins, Kern River District Ranger, March 21, 2024 Annual Outfitters’ Meeting.

KRB AES-1.3 Aesthetics. L1 Desktop Review, Modification

EDISON: *We are proceeding in accordance with FERC's SPD, and the Level 1 angling study is still actively collecting relevant data through the REC-2 visitor survey, as well as other desktop methods consistent with best practices. (ISR Reply at 35.)*

KRB: Edison sidesteps our argument — namely, that the L1 desktop review did not meet the standards of Whittaker as approved in the SPD. We maintain that the existing desktop review amounts to a variance under the approved study plan.

The Whittaker methodology mandates a literature review process that is both systematic and comprehensive. It emphasizes the importance of including a wide array of documents and perspectives to ensure that the review fully captures the range of impacts associated with a hydroproject, in this case, on aesthetics. The exclusion of documented opinions and feedback from relevant agencies and stakeholders on the aesthetic impacts of the project — as we highlighted in our initial comment — undermines the literature review's comprehensiveness. These perspectives are crucial for understanding the broader community and regulatory concerns regarding the project's visual and environmental footprint. The systematic exclusion of these sources from the L1 desktop review undermines the review's ability to adequately inform the question of whether to proceed to subsequent stages of the study process. We accordingly request that FERC mandate Edison to incorporate those overlooked agency opinions, stakeholder feedback, and other analyses concerning the aesthetic impacts of the project.

KRB ANG-1.3 Angling. L1 Desktop Review, Modification

EDISON: *We are proceeding in accordance with FERC's SPD, and the Level 1 angling study is still actively collecting relevant data through the REC-2 visitor survey, as well as other desktop methods consistent with best practices. (ISR Reply at 35.)*

KRB: Edison again sidesteps our argument. We maintain that the existing desktop review amounts to a variance under the approved study plan. We discussed immediately above how the Whittaker methodology mandates a literature review process that is both systematic and comprehensive. The exclusion of critical sources of information — specifically angler comments, our analyses, fish monitoring studies, and insights from a published angler group blog, as we pointed out in our initial comments — represents a significant variance from the comprehensive and inclusive approach mandated by the Whittaker methodology for literature reviews. These omissions not only narrow the review's scope but also potentially biases its conclusions by favoring information supporting the *status quo*, contrary to the methodology's objective of a balanced and comprehensive overview. It also undermines the review's ability to fairly inform the question of whether to proceed to subsequent stages of the study process. We accordingly request that FERC mandate Edison to incorporate those overlooked agency opinions, stakeholder feedback, and other analyses concerning the aesthetic impacts of the project.

KRB NRG-1. Voltage Stepping Costs, New Study

EDISON: *However, KRB does not identify any material change in law or regulations applicable to the information request, why the goals and objectives of this study could not be met with the approved study methodology, that the proposal has changed significantly or that significant new information has become available. (ISR Reply at 41.)*

KRB: Edison injected the issue of voltage stepping into this proceeding after its production and dissemination of the PAD. That is “significant new information” justifying a study request at this point.

EDISON: *A market study on voltage stepping is not needed to inform FERC’s decision on Project operational conditions relative to effects on natural and social resources. . . . FERC routinely rejects studies—like the voltage stepping cost study requested by KRB—that focus on project economics and market conditions. (ISR Reply at 42.)*

KRB: Again, Edison injected the issue of voltage-stepping into this proceeding in an effort to shore up the public interest/need for power portion of its application. It has accordingly set itself up to rebut *any* proposed license condition impinging on generation on the grounds that replacement energy entails “significant” transmission costs. We are asking for a quantifiable, evidence-based handle on how, and under what conditions, and whether those costs are indeed “significant.” Absent that information, stakeholders are at an unfair disadvantage in forming their license proposals to withstand Edison’s “significant cost” objection; nor are stakeholders able to craft those proposals in a manner that best serves the (asserted) public interest: *i.e.*, in manners that least involve additional cost (for instance, a proposal that attempts only to limit that portion of KR3 generation that is exported to Vestal or other substations). Edison’s objection does not withstand analytical scrutiny and we ask that the proposed study be approved.

KRB NRG-2. CAISO Bid History, New Study

EDISON: *KRB repeatedly urged FERC to require SCE to conduct this same study, but FERC staff did not require this requested study as part of its SPD. (ISR Reply at 43.)*

KRB: Edison misstates the record. KRB asked for bid history information as an information request, not as a study request, perhaps due to our misunderstanding on the manner of acquiring this objective information. We are uncertain why our request was overlooked. Contrary to the implication of Edison’s comment, FERC did not pass on our request; its issuances are silent on the matter. Given the importance of what should be routinely- and freely-shared information, we ask that it be provided now through this request.

EDISON: *The requested market valuation study will not provide any further information helpful to FERC when assessing Project effects and considering potential license conditions. (ISR Reply at 44.)*

KRB: This is an unserious objection. Under the current license, project operations are curtailed on occasion for recreational mitigation between the hours of 10 a.m. and 5 p.m. providing a seven-hour “bubble” of additional flows for recreation. The result of the current rec schedule is that KR3 generation is reduced approximately between the hours of 1 p.m. and 8 p.m. based on the results of OPS-1 to date. That obviously includes the CAISO evening net ramp, where intra-day wholesale energy prices are at their absolute highest. Wouldn’t it be better from a public interest standpoint if the rec bubble only limited KR3 generation during hours of low (or negative) wholesale prices and during the curtailment of renewable generators? The KR3 bid history can show stakeholders how to formulate the timing of the rec flow bubble in the next license term to better conform with societal need as revealed by market pricing. Moving the bubble back several hours may allow for *both* recreation *and* KR3 contribution to the evening net ramp at optimal times, unlike the current regime. That would plainly be in the public interest — an interest we are trying to help identify and get right.

Stakeholders also require this information to so as to be able to quantify the economic cost to generation of their specific license condition proposals — a real-world requirement imposed on PMEs by FERC — and to tailor those proposals in a manner to limit their cost and thus improve their chances for inclusion in the next license.

EDISON: *KRB’s attempt to argue that due to the potential for curtailment, the Project “is not useful to society from February through May and September through November” only serves to demonstrate KRB’s significant bias against this Project and an astounding oversimplification of policies, market rules, and grid operator rules governing the complex issue of curtailment. (ISR Reply at 45.)*

KRB: This is a low, dishonest quotation of KRB’s position. KRB wrote that the data on curtailment suggested “the energy KR3 produces *between 10am and 5pm* is not useful to society from February through May and September through November.” (KRB ISR NRG-2 at 117.) Edison’s misleading elision of our “between 10am and 5pm” qualifier is not well-received. Edison is fully aware (we would hope) that those are the hours of the solar glut that is responsible for the belly of the duck curve. Nor does Edison deny that renewable generators are curtailed — sidelined into non-generation — at those times during those months in an amount that is *57 to 169 times* the average energy KR3 produces. They cannot deny that fact because that’s what CAISO’s data shows. The only “significant bias” in this proceeding has been shown by Edison’s managers and consultants, whose jobs are funded by this project and who would not be making such contemptible elisions — or be anywhere near this proceeding, in all honesty — if they were not so employed. We, on the other hand, are here as public interest volunteers putting forth evidence-based analyses of real-world project contexts and impacts in the hope that our managing agents find the highest potential use of this incredible resource of the common treasury — not just a narrowly-focused use we are paid to promote.

EDISON: *FERC has determined that the public interest is well served by the important ancillary services provided by hydropower facilities such as the Project provides to stabilize and secure the electric grid [FERC has said:] “hydroelectric projects offer unique operational benefits to the electric utility system, including their ability to help maintain the stability of a power system, such as by quickly adjusting power output to respond to rapid changes in system load; and to respond rapidly to a major utility system or regional blackout by providing a source of power to help restart fossil-fuel based generating stations and put them back online.”* (ISR Reply at 45.)

KRB: Again, this study request is simply to find the most beneficial time during the day to have a recreational flow bubble — *a bubble that already exists under the current FERC license*. But let’s be clear: contrary to the sleight of hand in Edison’s argument, not all hydropower is created equal — especially with regard to ancillary services.

KR3 is not a dispatchable resource; it is a run-of-river “price taker” and as such, contrary to Edison’s argument, is not operated in a manner that makes it able to “respond to rapid changes in system load” like storage-based hydropower can. KR3 neither ramps up to meet demand nor ramps down to assuage the threat of overgeneration. Sister investor-owned utility Pacific Gas & Electric has stated to this agency that run-of-river hydro has “no ability to optimally choose when to generate.”⁵² CAISO has acknowledged the same: “Run-of-river hydro resources are similar in nature to variable energy resources. Variable energy resources, such as wind and solar resources, are also generally considered price takers, in

⁵² 167 FERC ¶ 61,001 at p. 8

that when the wind is blowing or the sun is shining they produce energy and sell it in the market.”⁵³ KR3 is wholly unlike storage-based hydroelectric generators that are *flexible* and *dispatchable*. Those are the most socially useful generators in the modern grid because they are able to respond to rapid changes in system load. Edison’s attempt at lumping the two types of hydropower together is misleading at best.

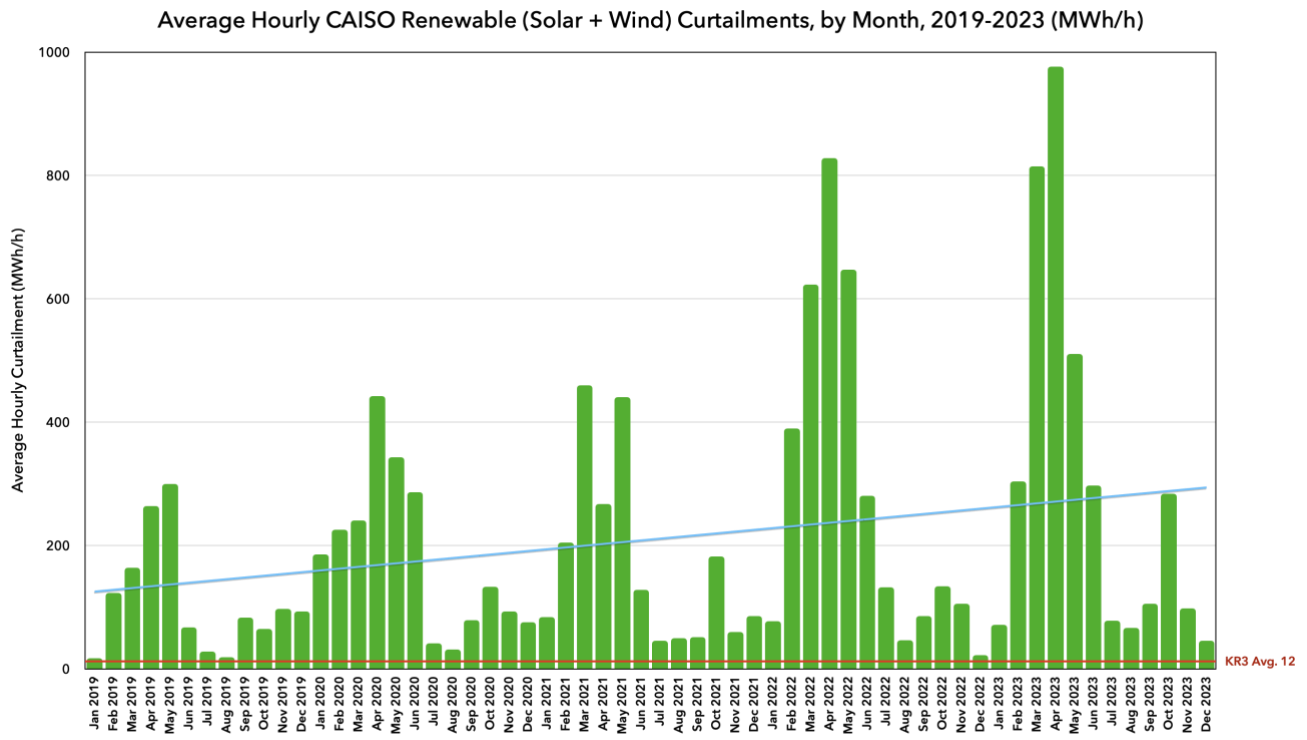
As for supplying power to fossil generators during a blackout, Edison ignores the fact that recreational flows in the current license (and, we will propose, in the next) are *always* suspended during stage 2 or greater power emergencies. (166 FERC ¶ 62,049.) Edison also ignores the fact that the low market pricing and curtailment phenomena at issue occur while wind and solar threaten *over*-generation — so much so that exceedingly vast amounts of renewable generators are sidelined from the grid and sit idly by.⁵⁴ It strains credulity for Edison to assert a potential loss of load event due to *under*-generation in that environment. With this study request, we are trying to pin down exactly when and to what degree these phenomena occur under current operations. Edison’s inapposite citation of FERC informs an argument that is out-of-touch with the highly attenuated *at times* nature of KR3’s contribution to the social good and the modern grid. Edison has failed to mount a serious rebuttal to our study request — again, for data that Edison should not be afraid to subject to the light of day — and we ask that it be performed.

Our study seeks a foundational means to optimize KR3’s operational schedule to greatly enhance recreational opportunities on the NFKR without undermining its contribution to the grid, particularly during peak demand periods. The current licensing conditions inadvertently reduce KR3’s generation capacity during the evening net ramp, a period of high wholesale energy prices and societal need for stable energy supply. By examining the project’s bid history, we aim to identify a more beneficial timing for the

⁵³ <http://www.caiso.com/InitiativeDocuments/DraftFinalProposal-CommitmentCostEnhancementsTariffClarifications.pdf> at p. 13, approved Jun 30, 2020 by FERC Order ER20-1592

⁵⁴ Edison also makes the uninformed assertion that FERC plays no role in the curtailment phenomenon. To the contrary, FERC regulates the CAISO wholesale electricity rate structure, which is directly responsible for the economic curtailment of renewable generators: “The Federal Energy Regulatory Commission (FERC) has regulatory oversight as to the activities of CAISO. In the late twentieth century and the early part of this century, FERC sought to develop organized markets for wholesale electricity sales so that sellers and buyers would be able to connect with ease and efficiency and achieve competitive, fair, market-based prices based on supply and demand. CAISO continues to run these wholesale electricity markets in its territory, which are an intricate operation involving development and adjustment of very complex market rules, based on input from stakeholders and rulings by FERC.” (<https://www.ferc.gov/understanding-and-participating-california-iso-caiso-processes>)

recreational flow "bubble," ensuring that societal needs for both recreation and energy are met more effectively. The economic implications of adjusting the recreational flow timing are significant. With an in-depth analysis of bid history, we can better understand how to align KR3's operations with market demands, potentially improving the project's economic viability while also addressing recreational and environmental goals. Understanding the market valuation of energy generated by KR3 is essential for a fair and informed balancing of developmental and non-developmental values. This understanding will enable stakeholders to propose license conditions that reflect real-world economic and environmental considerations, enhancing the project's alignment with both. The phenomenon of low and negative wholesale pricing leading to renewable curtailments continues to grow over time:



Source: CAISO.com

Conclusion

KRB would like to point out that the graphs submitted in support of its initial KR3 ISR comments have now been updated with daily data from WY 2023 courtesy USGS and hourly data from WY 2022 courtesy Edison. We freely offer all data and methods we use to generate graphical representations to the applicant, stakeholders, and managing agents for scrutiny at the following Apple website:

https://www.icloud.com/numbers/0caQO3V8WS5ViDodrps_tqfuw#KRB_ISR_SPREAD

Respectfully submitted from Kern River Boaters,

//s// ED

Elizabeth Duxbury, President

//s// JLP

José Luis Pino, Vice President

//s// BD

Brett Duxbury, Secretary-Treasurer

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