APPENDIX E.1
PROPOSED ENVIRONMENTAL MEASURES, MANAGEMENT PLANS, AND PROGRAMS

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LIST OF ACRONYMS AND ABBREVIATIONS

APE	Area of Potential Effects
CDFW	California Department of Fish and Wildlife
CFR	Code of Federal Regulations
cfs	cubic feet per second
FERC	Federal Energy Regulatory Commission
FLA	Final License Application
HPMP	Historic Properties Management Plan
KR3	Kern River No. 3
MIF	minimum instream flow
NFKR	North Fork Kern River
NNIP	non-native invasive plant
NRHP	National Register of Historic Places
O&M	operations and maintenance
PM&E	protection, mitigation, and enhancement
Project	Kern River No. 3 Hydroelectric Project (FERC Project No. 2290)
QA/QC	quality assurance/quality control
SCE	Southern California Edison
SQF	Sequoia National Forest
USGS	U.S. Geological Survey

E.1. PROPOSED ENVIRONMENTAL MEASURES, MANAGEMENT PLANS, AND PROGRAMS

Table E.1-1 identifies resource areas potentially affected by Kern River No. 3 (KR3) Hydroelectric Project (Project) operations and maintenance (O&M) activities under the proposed Project. Refer to Section 7, *Environmental Analysis*, in Exhibit E of this Application for New License for an analysis of ongoing and new environmental effects (beneficial or adverse) as part of the proposed Project. To address ongoing or new environmental or cultural Project effects, Southern California Edison (SCE) has included environmental measures, management plans, and programs as part of the proposed Project designed to protect, maintain, or enhance environmental and cultural resources over the term of the new license. These protection, mitigation, and enhancement (PM&E) measures are identified by resource area and are described in detail in this appendix.

SCE intends to continue discussing PM&E measures with applicable relicensing participants (federal and state regulators, Tribes, environmental and recreational organizations, and/or members of the public) after the filing of the Draft License Application to further refine the proposed PM&E measures, as appropriate. Additional details regarding the proposed Project and PM&E measures will be updated and included as part of the Final License Application (FLA).

Table E.1-1. Resource Areas Potentially Affected by Project Operations and Maintenance Activities under the Proposed Project

Proposed Project		Geologic and Soils	Water Use and Hydrology	Water Quality	Fish and Aquatic	Wildlife	Botanical	Recreation	Land Use Management	Aesthetic	Cultural	Tribal	Socioeconomics	Environmental Justice
FERC Project Boundary	Modifications to FERC Project Boundary								X		X	X		
Project Operations	Minimum instream flows (MIFs)	X	X	X	X	X		X		X				
	Ramping rates		X		X									
	Stream Gaging Plan		X											
	Sediment management													
	• Sandbox sediment flushing	X		X	X									
	• Sediment removal/flushing at small diversions	X		X	X									
	Recreational boating flows	X	X	X	X			X					X	
Project Maintenance	Project roads and facilities maintenance	X		X	X	X	X	X	X	X	X	X		
	Treatment and disposal of solid waste and wastewater								X					
	Oil and hazardous substances management			X	X				X					
	Vegetation management			X		X	X							
	Recreation facility maintenance							X						

FERC = Federal Energy Regulatory Commission

E.1.1. WATER RESOURCES AND PROJECT OPERATIONS

E.1.1.1. Measure WR-1, Minimum Instream Flows

North Fork Kern River below Fairview Dam

The Licensee shall release and maintain minimum instream flow (MIF) in the North Fork Kern River (NFKR) below Fairview Dam in accordance with the schedule in Table E.1-2.

Table E.1-2. Minimum Instream Flow Schedule

Month	Flow (cfs)
October	80
November	40
December	40
January	40
February	40
March	70
April	100
May	130
June	130
July	100
August	100
September	100

cfs = cubic feet per second

MIFs, or natural flows, whichever is less, shall be measured at SCE gage 401 (U.S. Geological Survey [USGS] gage 11186000) below Fairview Dam. The MIF release will be based on daily average flow measurements. The daily average flow shall never be less than the thresholds specified in the MIF schedule.

To support the non-Project Kern River Planting Base Hatchery (owned and operated by California Department of Fish and Wildlife [CDFW]) located downstream of the KR3 Powerhouse, the Licensee shall divert a minimum of 35 cubic feet per second (cfs) via the Project's water conveyance system, as measured by SCE gage 402 (USGS gage 11185500). The daily average flow shall never be less than 35 cfs. In the event that natural inflow above Fairview Dam is insufficient to meet the MIF release, the MIF release requirement will be reduced to natural flow and the Licensee shall divert a minimum of 35 cfs, and daily average shall not exceed 45 cfs. This flow shall be temporarily suspended during the regularly scheduled Project outage, as described in Measure WR-5, *Recreational Boating Flows* (see Section E.1.1.5 below).

Should CDFW notify the Licensee of suspended hatchery operations (i.e., short-term maintenance outage and temporarily suspend the need for the 35 cfs diverted flow), and if natural inflow above Fairview Dam is insufficient to meet the MIF, then the Licensee reserves the right to divert up to 5 cfs into the water conveyance system, as measured by SCE gage 402 (USGS gage 11185500), to maintain water pressure within the penstocks and other Project operational needs.

Requirements regarding run-of-river operations and MIFs may be temporarily modified if required by operating emergencies beyond the control of the Licensee (i.e., unplanned deviations). For any unplanned deviation from minimum flow that lasts longer than 3 hours or results in visible environmental effects such as a fish kill, the Licensee must notify Sequoia National Forest (SQF), State Water Resources Control Board, and CDFW within 24 hours and the Federal Energy Regulatory Commission (FERC) within 14 days and file a report as soon as possible but no later than 30 days after each such incident with the Secretary of the Commission. The report must include (1) the cause of the deviation; (2) the duration and magnitude of the deviation; (3) any pertinent operational and/or monitoring data; (4) a timeline of the incident and the Licensee's response; (5) any comments or correspondence received from the resource agencies, or confirmation that no comments were received from the resource agencies; (6) documentation of any observed or reported environmental effects; and (7) a description of measures implemented to prevent similar deviations in the future.

For unplanned deviations from run-of-river operations for minimum flows lasting 3 hours or less that do not result in visible environmental effects, the Licensee must notify FERC and the resource agencies listed above as soon as possible but no later than 10 days after each such incident. Within 30 days following notification, the Licensee will file a report with the Secretary of the Commission that includes (1) the cause of the deviation; (2) the duration and magnitude of the deviation; (3) any pertinent operational and/or monitoring data; (4) a timeline of the incident and the Licensee's response to each deviation; (5) any comments or correspondence received from the resource agencies, or confirmation that no comments were received from the resource agencies; and (6) a description of measures implemented to prevent similar deviations in the future.

Requirements for planned deviations regarding run-of-river operations and minimum flow, flows may be temporarily modified for short periods, of up to 3 weeks, after mutual agreement among the Licensee and the above-referenced resource agencies. After concurrence from the resource agencies, the Licensee must notify FERC within 14 days and file a report with the Secretary of the Commission as soon as possible, but no later than 30 days after the onset of the planned deviation. Each report must include (1) the reasons for the deviation and how Project operations were modified, (2) the duration and magnitude of the deviation, (3) any observed or reported environmental effects, and (4) documentation of consultation with the resource agencies. For planned deviations exceeding 3 weeks, the Licensee must file an application for a temporary amendment of the operational requirements of this license and receive FERC approval prior to implementation.

Salmon Creek

The Licensee shall release an instream flow or natural flows (whichever is less) below Salmon Creek Diversion in accordance with the following schedule per the current license.

- February through June 30: 4 cfs
- July 1 through January 31: 1 cfs

When diverting, instream flow requirements are met using calibrated, fixed-orifice plates located within the diversion pipeline. Flows exceeding the MIF requirement are then directed towards the Project's main flowline.

Corral Creek

The Licensee shall release an instream flow or natural flows (whichever is less) below Salmon Creek Diversion in accordance with the following schedule per the current license.

- February through June 30: 1 cfs
- July 1 through January 31: 0.5 cfs

When diverting, instream flow requirements are met using calibrated, fixed-orifice plates located within the diversion pipeline. Flows exceeding the MIF requirement are then directed towards the Project's main flowline.

E.1.1.2. Measure WR-2, Ramping Rates

The Licensee shall operate the Project such that flow reductions in the Fairview Dam Bypass Reach[1] (as measured by SCE gage 401), shall not exceed 30 percent of the existing flow per half hour for the protection of aquatic resources. The ramping requirements will be based on the hourly average flow measurement in the NFKR (SCE gage 401) immediately prior to implementing flow changes in the flowline.

The ramping rate criterion does not apply if greater reductions are necessary to protect life or property or in situations beyond the control of the Licensee. The ramping rates may be temporarily modified if required by operating emergencies or equipment failures beyond the control of the Licensee. For these deviations, the Licensee must notify FERC and the SQF, State Water Resources Control Board, and CDFW as soon as possible but no later than 10 days after each such incident. Within 30 days following notification, the Licensee will file a report with the Secretary of the Commission that includes (1) the cause of the deviation; (2) the duration and magnitude of the deviation; (3) any pertinent operational and/or monitoring data; (4) a timeline of the incident and the Licensee's

[1] The Fairview Dam Bypass Reach is defined as the approximately 16-mile bypass reach of the NFKR between Fairview Dam and the KR3 Powerhouse tailrace.

response to each deviation; (5) any comments or correspondence received from the resource agencies, or confirmation that no comments were received from the resource agencies; and (6) a description of measures implemented to prevent similar deviations in the future.

E.1.1.3. Measure WR-3, Stream Gaging Plan

The objectives of the Stream Gaging Plan are as follows:

- Identify and describe Project gages used to document compliance with MIFs, ramping rates requirements, and dissemination of real-time flow information to the public;
- O&M of all gages, including calibration ratings and quality assurance / quality control (QA/QC) measures conducted;
- Annual reporting requirements with the USGS.

The gages used to document compliance with MIF and ramping rate requirements are listed in Table 5.1-1 of Exhibit E of this License Application. The gages will be maintained and operated by the Licensee and will implement current USGS gaging standards for the type of measurement system specific to each location.

The Licensee will post real-time hourly preliminary streamflow data from the NFKR Bypass Reach as well as flow in the flowline, thus providing agency and public access to flow information in a timely manner. The Sutronwin Internet platform (North Fork Kern River (sutronwin.com) or similar will be used.

The data collected by the Licensee from the stream gages is reviewed by SCE hydrographers as part of its QA/QC protocol. Upon completion of the QA/QC process, the data is catalogued and made available to the USGS in annual hydrology summary reports. The USGS then completes the QA/QC review of the data and subsequently publishes the data and posts it within their electronic database that can be accessed online.

SCE will prepare a Stream Gaging Plan within 1 year following license issuance for resource agency review and comment. Upon resource agency approval, SCE will file the Stream Gaging Plan with FERC for review and approval.

E.1.1.4. Measure WR-4, Sediment Management Plan

The Licensee proposes to develop a Sediment Management Plan that will describe the following sediment management activities conducted at Project facilities to maintain and protect system reliability.

Sandbox Flushing

The Licensee will conduct sediment removal activities at the sandbox to mobilize accumulated sediment in accordance with the following parameters per the current license.

- Licensee shall implement at least bi-weekly (every 2 weeks) sandbox flushing when river flows below Fairview Dam exceed 350 cfs, as measured by SCE gage 401. Sandbox flushing will occur during normal Project operations, except when extreme weather or high water conditions make flushing impractical.

- Between July 1 and February 15 when flows are below 350 cfs and outside of the trout spawning period, the Licensee shall routinely inspect the sandbox and, if necessary, drain one or both sides of the sandbox during normal Project operations to flush accumulated sediment.

Salmon and Corral Creek Diversions

At the two smaller diversions, Salmon Creek Diversion and Corral Creek Diversion, there is a need to periodically remove accumulated sediment from behind the diversion to maintain flow into the diversion infrastructure and provide MIF releases. The Licensee may open the pond drain when not diverting (i.e., the diversion is turned out) to allow accumulated sediment to naturally flush downstream.

If accumulated sediment does not naturally flush downstream, sediment may need to be physically removed and relocated downstream using small hand tools.

SCE will prepare a Sediment Management Plan within 1 year following license issuance for resource agency review and comment. Upon resource agency approval, SCE will file the Sediment Management Plan with FERC for review and approval.

E.1.1.5. Measure WR-5, Recreational Boating Flows

As components of the *REC-1 Whitewater Boating Study Plan* are still ongoing, the details associated with this measure and any additional changes will be discussed with the Stakeholder group following the completion of data collection efforts.

SCE's proposal includes the following:

- Schedule a routine 10-day, consecutive, operational outage for the Project (i.e., not divert) in the spring on the ascending limb of the hydrograph.

    - During the outage, all natural flows will remain in the Fairview Dam Bypass Reach. The 10-day outage will start on a Friday and include 2 weekends. SCE will cease all diversion by 10:00 a.m. on the Friday of the outage period and restore Project operations starting 5:00 p.m. the following Sunday evening. The date of the outage will be developed in consultation with applicable resource agencies and Stakeholders.

This flow schedule must be discontinued for each day the California Independent System Operator, or its successor, declares a Stage II or greater power emergency. Additionally, the flow schedule may be temporarily modified if required by operating emergencies beyond the control of the Licensee.

E.1.2. Recreation Resources

E.1.2.1. Measure RR-1, Recreation Management Plan

To protect, mitigate, and enhance recreational resources, the Licensee proposes to develop a Recreation Management Plan in consultation with applicable resource agencies. This plan will include measures to address recreation needs where there is a Project nexus related to (1) accessibility, (2) improved visitor use experience, and (3) other recreation resource needs identified as part of the REC-2 Study.

KR3 Powerhouse Put-in/Take-out Project Recreation Facility: The Licensee proposes to continue ongoing maintenance of the Project recreation facility situated below the KR3 Powerhouse. SCE will review the results of the REC-2 and REC-3 Studies to evaluate if additional measures are needed to address recreation needs at this location.

SCE will prepare a Recreation Management Plan within 1 year following license issuance for resource agency review and comment. Upon resource agency approval, SCE will file the Recreation Management Plan with FERC for review and approval.

E.1.3. Land Use

E.1.3.1. Measure LU-1, Project Roads and Facilities Management Plan

To protect natural and cultural resources from impacts of routine O&M activities around Project roads and facilities, protect worker/public health and safety, and control erosion and sedimentation, the Licensee proposes to develop a Project Roads and Facilities Management Plan. This new plan will integrate components from the existing *Erosion, Stream Sedimentation, Soil Mass Movement and Dust Control Plan* (current License Article 401) and include measures to (1) reduce erosion and sedimentation and for dust control resulting from Project construction and operation activities when grading or disturbing soils, and (2) reduce impacts in the event of a major land movement (either from a flowline failure or natural hillslope failure).

Additionally, the Project Roads and Facilities Management Plan will include:

- Identification and description of Project roads located within the FERC Project Boundary that are used by SCE for the continued O&M of the Project.

- Description of measures to minimize or eliminate potential effects from road maintenance activities, including the identification and development of measures to protect habitats for sensitive biological or terrestrial species, or in areas identified as having cultural resources. Activities for the protection of cultural resources will be

consistent with guidance provided in the Historic Properties Management Plan (HPMP) in order to avoid or mitigate potential effects to historic properties.

- Summary of Project road O&M activities that include periodic inspections to identify the need for road maintenance, conducting maintenance/repair of drainage structures (culverts or low-water stream crossings) and road-side best management practices (water bars, drainage, grading and repair of road surfaces, and repairing Project fences or gates).

- Identification, treatment, and reporting of erosion sites on Project roads or around Project facilities, as needed.

If there is a need for excess construction/spoil piles to be disposed of on national forest lands as a result of maintenance activities, a section in the plan will summarize the process for the development of a Project-specific plan, similar to the Plan for Storage and/or Disposal of Excess Construction/Tunnel Spoils and Slide Materials.

SCE will prepare a Project Roads and Facilities Management Plan within 1 year following license issuance for resource agency review and comment. Upon resource agency approval, SCE will file the plan with FERC for review and approval.

E.1.3.2. Measure LU-2, Visual Resources Protection Plan

The Licensee will continue with the existing Plan for the Design and Construction of Project Facilities in Order to Preserve or Enhance Visual Quality. Key components of the plan include:

- Summarize SQF's aesthetic preservation and enhancement measures that will be used as guidelines for any future changes to the Project.

- Use earth tones when painting Project facilities in accordance with U.S. Forest Service specifications.

- Use vegetation and the landscape to provide natural screening of Project features, where feasible.

- Consultation with SQF prior to making visual changes to Project features on National Forest System lands to minimize any aesthetic impacts.

The current plan will be reviewed and updated, as needed, in coordination with the SQF and filed with the FLA.

E.1.3.3. Measure LU-3, Treatment and Disposal of Solid Waste and Wastewater Plan

The Licensee will continue with the existing Plan for Treatment and Disposal of Solid Waste and Wastewater. Key components of the plan include:

- Management and disposal of domestic solid waste associated with routine O&M activities.
- Management and disposal of construction-related debris.
- Management of domestic wastewater via septic tank approved by Kern County.

The current plan will be reviewed and updated, as needed, in coordination with the SQF and filed with the FLA.

E.1.3.4. Measure LU-4, Oil and Hazardous Substances Management Plan

The Licensee will continue with the existing Plan for Oil and Hazardous Waste Storage and Spill Prevention and Cleanup. Key components of the plan include:

- Description of oil and hazardous substance uses and storage locations.
- Notification requirements in the event of a spill or other hazardous materials related emergency.
- Requirement to update and maintain other SCE or federally required plans such as SCE's Hazardous Waste Guidance Manual, SCE's Oil Spill Contingency Plan, and the Spill Prevention Control and Countermeasures Plan (40 CFR Part 112).

The current plan will be reviewed and updated, as needed, in coordination with the SQF and filed with the FLA.

E.1.4. CULTURAL AND TRIBAL RESOURCES

E.1.4.1. Measure CR-1, Historic Properties Management Plan

Cultural Resources

The Licensee will draft a HPMP that addresses the management and treatment of cultural resources that have been determined eligible for inclusion in the National Register of Historic Places (NRHP) or remain unevaluated within the Area of Potential Effects (APE) over the term of the new license. Specifically, the HPMP does the following:

- Defines the APE;
- Describes cultural resource inventory studies and NRHP-eligibility studies conducted for the Project and their results;
- Describes the statutes, regulations, and executive orders that pertain to cultural resources management;
- Identifies potential Project-related effects on cultural resources located within the APE;

- Identifies measures to manage Project-related activities in the vicinity of cultural resources located within the APE;
- Describes methodology and reporting associated with periodic cultural resource site condition monitoring;
- Defines protocol for implementation of periodic cultural resource site condition monitoring upon approval of the HPMP; and
- Describes reporting and consultation requirements.

An HPMP will be developed for the FLA.

Tribal Resources

The HPMP addresses the management and treatment of Tribal resources that have been determined eligible for inclusion in the NRHP or remain unevaluated within the APE over the term of the new license. Refer to Section E.1.4.1.1, *Cultural Resources*, above for a description of the components included as part of the HPMP. An HPMP will be developed for the FLA.

E.1.5. TERRESTRIAL AND BOTANICAL RESOURCES

E.1.5.1. Measure TB-1, Vegetation Management Plan

The Licensee will develop a Vegetation Management Plan that describes vegetation management activities needed to maintain access to and protection of Project facilities and for the protection of worker/public safety. Additionally, this plan will include measures when conducting vegetation management for the protection and avoidance of cultural and Tribal resources (cross referenced to Measure CR-1, *Historic Properties Management Plan*), special status plants and animals (cross referenced to Measure TB-2, *Wildlife Resources Management Plan*) and treatment of non-native invasive plants (NNIPs).

The Vegetation Management Plan will maintain consistency with the 2023 Land Management Plan for the Sequoia National Forest (U.S. Forest Service 2023) and will include the following components:

- Summary of vegetation management activities and locations within the FERC Project Boundary.
- Measures may include manual or mechanical removal or through the use of approved herbicide applications.
- Description of hazard tree identification and remediation measures.
- Overview of Special Status Species known to occur or with potential to occur in the FERC Project Boundary:

  - Description of measures that could be implemented to avoid or minimize impacts.
  - Management and protective activities for at-risk botanical species.
- Overview of NNIP in the FERC Project Boundary:
  - A list of NNIP known to occur and a priority rank for each (e.g., control versus eradication versus limiting dispersal);
  - Description of the Licensees' current practices for preventing the introduction and dispersal of invasive species; and
  - Measures for control of invasive species and locations.
- Description of measures that could be implemented to avoid or minimize impacts.
- Implement environmental awareness trainings. Notification to applicable resource agencies (USFWS, CDFW, SQF) and FERC if any existing or newly federally listed threatened, endangered, or sensitive species other than those described in the plan are present in the Project Area over the term of the new license.

SCE will prepare a Vegetation Management Plan within 1 year following license issuance for resource agency review and comment. Upon resource agency approval, SCE will file the plan with FERC for review and approval.

E.1.5.2. Measure TB-2, Wildlife Resources Management Plan

The Licensee will develop a Wildlife Resources Management Plan that describes Project O&M activities that may affect wildlife in the FERC Project Boundary and identifies additional protection and avoidance measures for any threatened or endangered or special status wildlife species (terrestrial and amphibian) known to occur within the FERC Project Boundary. This plan will include information about the following.

- General Wildlife Protection Measures:
  - To protect and prevent wildlife trappings or drowning in the aboveground segments of the Project flowline, SCE will maintain fences currently installed at the end portions of the open flume segments located at Salmon Creek, Bryn Canyon, Corral Creek, and Adit 19-20. Other open segments of the flowline are located at the intake, sandbox, and a concrete box prior to the siphon are completely fenced in.
    - Since the open flume segments are constructed with 10- to 15-foot-high vertical walls, it is not necessary to fence the entire length. A small portion of the forebay near the penstocks is also open but is situated 20-feet high and is therefore inaccessible to wildlife.

- Develop best management practices that will be implemented during maintenance activities for the protection or avoidance of threatened or endangered or special status wildlife.

SCE will prepare a Wildlife Resources Management Plan within 1 year following license issuance for resource agency review and comment. Upon resource agency approval, SCE will file the plan with FERC for review and approval.

E.1.6. REFERENCES

U.S. Forest Service. 2023. *Land Management Plan for the Sequoia National Forest: Fresno, Kern, and Tulare Counties, California*. U.S. Department of Agriculture, Forest Service, Pacific Southwest Region, Sequoia National Forest. R5-MB-330A. Accessed: August 25, 2023. Retrieved from: https://www.fs.usda.gov/project/?project=3375.

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