

POTENTIAL RESOURCE ISSUE:

- Aesthetic conditions, including visual quality and noise.

PROJECT NEXUS:

- The presence of Project facilities could affect visual resources.
- Helicopter use for routine operations and maintenance projects may have noise effects (NPS 2015).
- Spills from Kaweah No. 3 Forebay may have visual and noise effects (NPS 2015).

POTENTIAL LICENSE CONDITIONS:

- Visual Resources Management Plan.
- Specific measures designed to reduce noise effects associated with helicopter use, to the extent practicable.
- Specific measures to reduce visual and noise effects associated with spills from Kaweah No. 3 Forebay.

STUDY OBJECTIVES:

- Identify and map visual resources in the vicinity of the Kaweah Project, including visual management objectives established by the Bureau of Land Management (BLM), Tulare County, and/or the National Park Service (NPS), as appropriate.
- Document the existing visual condition (EVC) of Project facilities from Key Observation Points (KOPs) established in consultation with the BLM, Tulare County, and/or the NPS, as appropriate.
- Determine whether the Project facilities meet established BLM, Tulare County, and/or NPS visual resource management objectives and assess compatibility of Project facilities with surrounding landscape.
- Assess helicopter noise associated with routine operation and maintenance of the Project.
- Assess visual condition and noise associated with spills from the Kaweah No. 3 Forebay.

EXTENT OF STUDY AREA:Visual Resource Study

The Study Area for the visual resource study includes the Project facilities identified in Table LAND 2-1 and their associated viewsheds. The viewsheds include primary travel routes, recreation areas, and water bodies from which the existing Project facilities are visible to the public.

Helicopter Noise Study

The study area for helicopter noise study includes the area around the existing landing pad and other sensitive areas with sensitive receptors that may be affected by helicopter noise associated with routine operations and maintenance of the Project, to be determined in consultation with the NPS.

Kaweah No. 3 Forebay Spill Study

The study area associated with the assessment of Kaweah No. 3 Forebay spills will be limited to areas in the immediate vicinity of the spill channel where the public can either view and/or hear the spill. These areas will be identified in consultation with the NPS.

STUDY APPROACH:

The Kaweah Project facilities are located on private land managed by Tulare County and on public land managed by the BLM. Therefore, aesthetic resources will primarily be assessed with respect to management objectives established by Tulare County and/or the BLM. Although none of the Project facilities are located within the boundaries of the Sequoia Kings Canyon National Park (SKCNP), some are visible or can be heard from locations within the SKCNP. Therefore, this study will consider National Park Service (NPS) visual and noise management objectives, where appropriate.

Visual Resource Study

A thorough visual resource study was conducted in 1989 as part of the previous relicensing effort (KEA 1989). That study assessed the visual compatibility of the Kaweah Project facilities with respect to the surrounding landscape using the BLM's Visual Resources Management (VRM) System, following the Visual Resource Inventory guidelines outlined in BLM Manual Handbook 8410-1 (BLM 1986a) and the visual contrast rating system guidelines outlined in the BLM's Visual Resource Contrast Rating Manual H-8431-1 (BLM 1986b). These guidelines are the same as those used today.

All of the primary Project facilities that are readily visible from public viewing locations were systematically evaluated as part of the Visual Resource Study conducted in 1989. Therefore, Project facilities that were evaluated in 1989 will not be reevaluated as part of this study. The current study will utilize and build on information that was developed in 1989, and will focus on assessing any facilities that were constructed or substantially modified after the 1989 study was completed. The facilities requiring an updated visual assessment include:

- Kaweah No. 1 Powerhouse Campus
- Kaweah No. 2 Diversion Dam and connecting flowline

The following methods will be utilized to inventory visual resources in the vicinity of the Kaweah Project and to assess the EVC and compatibility of Project facilities constructed or substantially modified since 1989 with respect to the surrounding landscape.

- Compile and summarize pertinent BLM, Tulare County and NPS management direction regarding visual resources, including direction contained in the following documents:
 - BLM Bakersfield Field Office Approved Resource Management Plan (BLM 2014);
 - Tulare County General Plan 2030 Update and pertinent area plans (e.g., Three Rivers Area Plan); and
 - Sequoia & Kings Canyon General Management Plan (NPS 2012).
- Prepare maps showing the Project facilities with respect to visual resource inventory information and corresponding tables.

- Evaluate the EVC of any newly constructed or substantially modified Project facilities (i.e., post-1989) with respect to the existing landscape.
 - Identify and map KOPs in consultation with BLM, Tulare County, and NPS visual resource specialists. KOPs will be located along commonly traveled routes or other likely observation points.
 - Photograph the Project facilities from established KOPs.
 - Document the EVC of the Project facilities from established KOPs using the BLMs Visual Resource Contrast Rating system (BLM 1986).
 - For consistency, the Project facilities will be assessed using the BLMs Visual Contrast Rating System, regardless of land jurisdiction.
 - As outlined in BLM guidance manual 8431-1 (BLM 1986), the Visual Contrast Rating will consider form, line, color, texture, scale and space.
- Use the contrast ratings to determine whether the EVC of Project facilities meets the established visual resource management objectives. In cases where the objectives are not met, the reasons why the objectives are not met will be documented.
- Use the contrast ratings to determine visual compatibility with the surrounding landscape, based on visual resource inventory information (e.g., visual sensitivity and distance zones from KOPs).

Helicopter Noise Study

- Identify and document Tulare County, BLM, and NPS noise policies and noise criteria.
- Identify specific noise-sensitive locations in consultation with the NPS.
- Describe SCE routine operation and maintenance activities that involve helicopters, including timing, duration, location, season of use, and distance from sensitive receptors.
- Measure noise levels at sensitive locations for comparison to established noise criteria.

Kaweah No. 3 Forebay Spill Study

- Describe circumstances under which spill from Kaweah No. 3 Forebay occurs, including historic frequency and duration.
- Consult with NPS to identify specific location(s) where spill noise and/or visual condition is a concern (study locations).
- Measure noise levels during spill events at study locations to document actual noise levels.
- Photo document visual conditions during spill events. Compare with photographs taken during non-spill events.

SCHEDULE:

Date	Activity
November 2017–March 2018	Consult with stakeholders and compile existing resource information
April–June 2018	Conduct field surveys (visual resource and helicopter noise assessments)
Concurrent with spill event	Conduct Kaweah No. 3 Forebay noise and visual assessment
July–October 2018	Analyze data and prepare draft report
November 2018	Distribute draft report to the stakeholders
December 2018–February 2019	Stakeholders review and provide comments on draft report (90 days)
March–May 2019	Resolve comments and prepare final report
August 2019	Distribute final report in Draft License Application

REFERENCES:

- Keller Environmental Associates (KEA) Inc. 1989. Kaweah Hydroelectric Project Visual Resources Report. Prepared for Southern California Edison Company. November 1989.
- National Park Service (NPS). Sequoia & Kings Canyon General Management Plan (2012). Available at: <http://www.nps.gov/seki/learn/management/gmp.htm>
- _____. 2015. Sequoia and Kings Canyon National Parks (SEKI) Stakeholder Interest Statement. July 31, 2015.
- Tulare County. 2012. Tulare County General Plan 2030 Update. Available at: <http://generalplan.co.tulare.ca.us/>
- U.S. Bureau of Land Management (BLM). 1986a. Manual H-8410-1 – Visual Resource Inventory. Dated 1/17/86.
- _____. 1986b. Manual 8431 – Visual Contrast Rating. Dated 1/17/86.
- _____. 2014. Bakersfield Field Office Approved Resource Management Plan (ARMP). Available at: http://www.blm.gov/ca/st/en/fo/bakersfield/Programs/planning/caliente_rmp_revision.html

TABLE

Table LAND 2-1. Project Facilities and Relationship to FERC Project Boundary.

Project Facility	Within FERC Project Boundary	Portion of Facility Outside FERC Project Boundary		
		Entirely on Private Property	Partially on Private Property	Partially on NPS Property
Diversion Dams and Pools				
Kaweah No. 1 Diversion Dam and Pool (East Fork Kaweah River)	X			
Kaweah No. 2 Diversion Dam and Pool (Kaweah River)	X			
Flowlines				
Kaweah No. 1 Flowline	X			
Kaweah No. 2 Flowline	X			
Kaweah No. 3 Flowline	X			
Forebays				
Kaweah No. 1 Forebay Tank and Spillway	X			
Kaweah No. 2 Forebay and Spillway	X			
Kaweah No. 3 Forebay and Spillway	X			
Penstocks				
Kaweah No. 1 Penstock	X			
Kaweah No. 2 Penstock	X			
Kaweah No. 3 Penstock	X			
Powerhouses and Switchyards				
Kaweah No. 1 Powerhouse and Switchyard	X			
Kaweah No. 2 Powerhouse and Switchyard	X		X (Tailrace Only)	
Kaweah No. 3 Powerhouse and Switchyard	X			
Transmission Lines and Transmission Tap Lines				
Kaweah No. 3 Powerhouse to Three Rivers Substation Transmission Line	X			
Kaweah No. 1 Powerhouse Transmission Tap Line	X			
Kaweah No. 2 Powerhouse Transmission Tap Line	X			
Power Lines				
Kaweah No. 1 Diversion Intake House Solar Panel to Kaweah No. 1 Diversion Dam Power Line (solar)	X		X	
Kaweah No. 1 Switchyard to Kaweah No. 1 Maintenance Building Power Line	X			
Kaweah No. 1 Switchyard to Kaweah No. 1 Office Building Power Line	X			
Kaweah No. 1 Switchyard to Kaweah No. 1 Old Machine Shop Power Line	X			
Kaweah No. 1 Switchyard to K1 Workshop Power Line	X			
Kaweah No. 1 Office Building to K1 Forebay Tank Power Line	X			

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		Entirely on Private Property	Partially on Private Property	Partially on NPS Property
Power Lines (continued)				
Kaweah No. 1 Powerhouse Campus Alternate Power Line	X			
Kaweah No. 2 Diversion/Flowline Gage and Kaweah No. 3 Powerhouse Alternate Power Line	X			X
Kaweah No. 2 Powerhouse Alternate Power Line	X			
Kaweah No. 2 Powerhouse to Kaweah No. 2 Forebay Power Line	X			
Kaweah No. 3 Powerhouse to Kaweah No. 2 Diversion Power Line	X			
Kaweah No. 3 Powerhouse to Kaweah No. 2 Flowline Gage Power Line	X			X
Kaweah No. 3 Powerhouse to Kaweah No. 3 Forebay Power Line	X			
Communication Lines				
Kaweah No. 1 Powerhouse to Kaweah No. 1 Office Building Fiber Communication Line	X			
Kaweah No. 1 Office Building to Kaweah No. 1 Forebay Tank Fiber Communication Line	X			
Kaweah No. 2 Diversion Dam to Kaweah No. 3 Powerhouse Fiber Communication Line	X			
Kaweah No. 2 Powerhouse to Kaweah No. 2 Forebay Fiber Communication Line	X			
Kaweah No. 3 Powerhouse to Kaweah No. 3 Forebay Fiber Communication Line	X			
Kaweah No. 3 Forebay to Kaweah No. 3 Forebay Inlet Fiber Communication Line	X			
Stream Gages				
East Fork Kaweah River Conduit 1 at Power Plant near Hammond CA (USGS Gage No. 11208800) (SCE Gage No. 200a)	X			
East Fork Kaweah River near Three Rivers CA (USGS Gage No. 11208730) (SCE Gage No. 201)	X			
Kaweah No. 1 Minimum Instream Flow Release (SCE Gage No. 201a)	X			
East Fork Kaweah River Conduit 1 near Three Rivers CA (SCE Gage No. 202)	X			
Kaweah River below Conduit No. 2 near Hammond CA (USGS Gage No. 11208600) (SCE Gage No. 203)	X			
Kaweah River Conduit No. 2 near Hammond CA (SCE Gage No. 204a)	X			
Kaweah River Conduit No. 2 at Power Plant near Hammond CA (USGS Gage No. 11208818) (SCE Gage No. 205a)	X			

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		Entirely on Private Property	Partially on Private Property	Partially on NPS Property
Stream Gages (continued)				
Middle Fork Kaweah River Conduit No. 3 at Power Plant near Hammond CA (USGS Gage No. 11208565) (SCE Gage No. 206a)	X			
Project Access Roads				
Kaweah No. 1 Development				
Kaweah No. 1 Flowline Access Road – Bear Canyon	X		X	
Kaweah No. 1 Flowline Access Road – Grapevine	X			
Kaweah No. 1 Flowline Access Road – Lower Pine	X			
Kaweah No. 1 Flowline Access Road – Lumberyard	X			
Kaweah No. 1 Flowline Access Road – Slick Rock	X		X	
Kaweah No. 1 Flowline Access Road – Summit	X			
Kaweah No. 1 Flowline Access Road – Unnamed	X		X	
Kaweah No. 1 Flowline Access Road – Upper Pine	X			
Kaweah No. 1 Forebay Road	X			
Kaweah No. 1 Intake Road	X		X	
Kaweah No. 2 Development				
Kaweah No. 2 Flowline Access Road – Canal 2 Brushout Grid	X		X	
Kaweah No. 2 Flowline Access Road – Canal 4 East	X		X	
Kaweah No. 2 Flowline Access Road – Canal 4 West	X		X	
Kaweah No. 2 Flowline Access Road – Canal 5	X		X	
Kaweah No. 2 Flowline Access Road – Canal 6 East	X		X	
Kaweah No. 2 Flowline Access Road – Canal 6 West	X		X	
Kaweah No. 2 Flowline Access Road – Flume 8	X			
Kaweah No. 2 Flowline Access Road – Flume 11	X		X	
Kaweah No. 2 Flowline Access Road – Open Siphon Grids	X			
Kaweah No. 2 Flowline Access Road – Red Barn	X		X	
Kaweah No. 2 Flowline Center Access Road	X		X	
Kaweah No. 2 Flowline East Access Road	X			
Kaweah No. 2 Flowline West Access Road	X		X	
Kaweah No. 2 Forebay Road	X			
Kaweah No. 2 Intake Road	X			X

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Project Access Roads (continued)				
Kaweah No. 2 Development (continued)				
Kaweah No. 2 Penstock Road	X			
Kaweah No. 2 Powerhouse Road	X			
Kaweah No. 3 Development				
Kaweah No. 3 Forebay Road	X		X	
Kaweah No. 3 Powerhouse Road	X			
Project Trails				
Kaweah No. 1 Development				
Kaweah No. 1 Flowline Access Trail – Grand Canyon	X		X	
Kaweah No. 1 Solar Panel Access Trail		X		
Kaweah No. 2 Development				
Kaweah No. 2 Flowline Access Trail – Canal 11	X		X	
Kaweah No. 2 Flowline Access Trail – Canal 13	X			
Kaweah No. 2 Flowline Access Trail – Canal 15	X			
Kaweah No. 2 Flowline Access Trail – Canal 2	X			
Kaweah No. 2 Flowline Access Trail – Canal 4	X			
Kaweah No. 2 Flowline Access Trail – Canal 5	X			
Kaweah No. 2 Flowline Access Trail – Canal 6	X			
Kaweah No. 2 Flowline Access Trail – Open Siphon	X			
Kaweah No. 2 Flowline Access Trail – Water User 14	X			
Kaweah No. 2 Flowline Access Trail – Water User 9	X		X	
Kaweah No. 2 Flowline Access Trail – Wildlife Crossing 2	X			
Kaweah No. 2 Powerhouse River Access Trail	X			
Kaweah No. 3 Development				
Kaweah No. 3 Flowline Access Trail	X			
Ancillary and Support Facilities				
Kaweah No. 1 Forebay Tank Repeater	X			
Kaweah No. 1 Powerhouse Campus	X			
Kaweah No. 1 Diversion Intake House Solar Panel		X		
Kaweah No. 1 Solar Yard Satellite Repeater		X		

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Ancillary and Support Facilities (continued)				
Kaweah No. 1 Grapevine Satellite Repeater	X			
Kaweah No. 2 Powerhouse River Access Parking	X			
Kaweah No. 2 Wildlife Bridges	X			
Kaweah No. 2 Wildlife Escape Ramps	X			
Kaweah No. 2 Footbridges	X			
Kaweah No. 3 Wildlife Bridges	X			
Kaweah No. 3 Wildlife Escape Ramps	X			
Kaweah No. 3 Footbridges	X			

Notes:

Property jurisdiction based on multiple sources. Some data has been modified to account for known errors.

Sources:

1. FERC boundary Exhibit G sheets obtained from SCE (Dec. 2014). Sheets filed with FERC in 2009; Sheets 4-6 updated and filed with FERC 2012.
2. Digital FERC boundary obtained from SCE but heavily modified to account for known errors (Dec. 2014)
3. Digital parcel boundary for Tulare County purchased from OGInfo.com LLC (May 2015)
 Parcel Vintage: 02/12/2013
 Attribute Vintage: 02/17/2015