

Lee Vining Hydroelectric Project

FERC No. 1388

AQUATIC RESOURCES
Technical Working Group Meeting #1

Safety Moment



Lee Vining Relicensing TWG Team

SCE Team

Matthew Woodhall
Project Manager

Martin Ostendorf
Senior Manager

Seth Carr
Operations Manager

Consultant Team

Finlay Anderson
Project Manager

Michael Harty
Facilitator

Shannon Luoma
Deputy PM

Terra Alpaugh
Facilitator

Kelly Larimer
Project Director

Heather Bowen Neff
Fish and Aquatics
TWG Lead

Carissa Shoemaker
TWG Coordinator

Facilitation Team

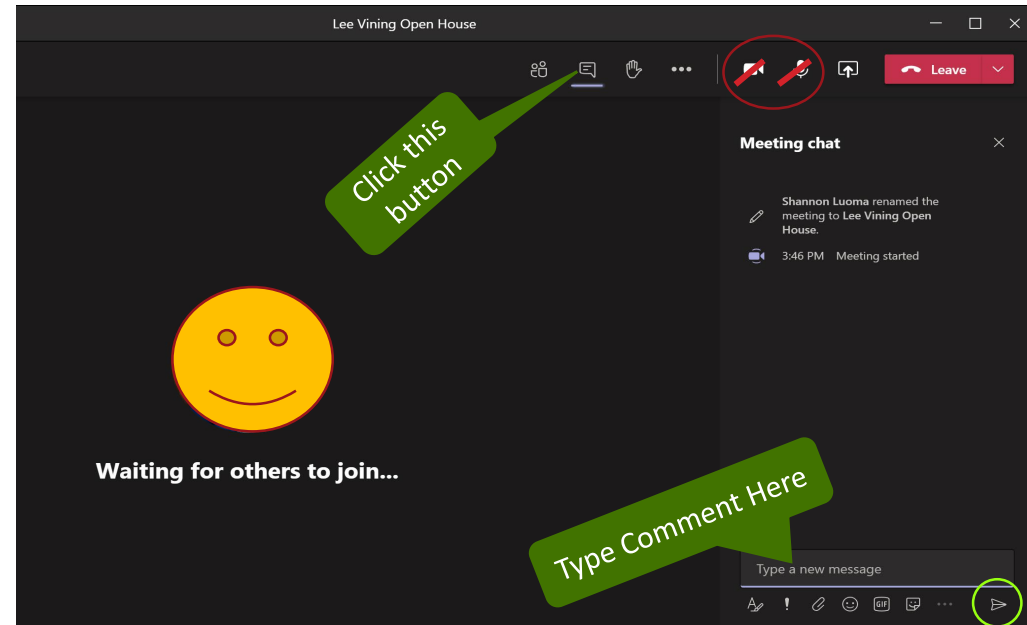
- Who
- Approach
- Roles / Rules of Engagement

Agenda

- Welcome & Introductions
 - Safety Moment
 - Introduction to facilitators
 - Meeting guidelines
 - Review of November TWG notes
- TWG Purpose & Objectives
 - Review materials
 - FERC NEPA process overview
 - FERC's 7 Study Plan Criteria
- Discussion of Resource Management Objectives/Public Interest Considerations
 - Desired future conditions
 - Data gaps
 - Potential study requests
- Schedule, Next Steps, Action Items
- Final Questions

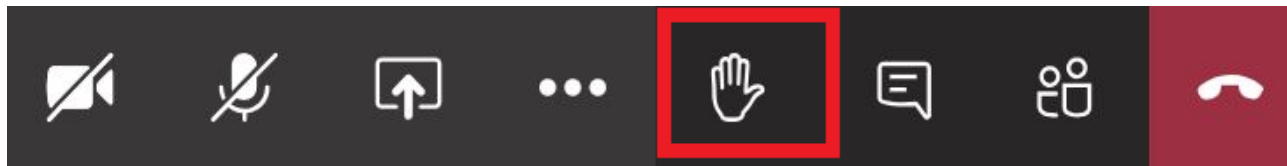
Meeting Tips and Guidelines

- Please remain on mute unless called on
- Turn off camera
- Meeting materials are available on Project website www.sce.com/leevining
- Consider shutting down other background programs for best meeting audio/viewing quality
- Utilize the chat box during the presentation for questions or comments
- Questions will be answered in appropriate Q&A sections as time allows



How to Ask a Question

- Use the chat box or ask question verbally
- Use the “Raise Hand” feature to indicate you would like to ask your question verbally



- Please wait to be called on and then unmute your line
 - Introduce yourself (name and affiliation) prior to speaking
- Please listen and respect each other
- Please stay on topic

TWG Materials Provided via Email and Website

- Email
 - Agenda and Homework
 - FERC Scoping Overview Memo
 - Draft Nov 2020 Initial TWG Meeting Notes
- Website
 - TWG Charter Document
 - Select parts of PAD
 - PAD References List
 - Comprehensive Management Plans List
 - FERC NEPA overview
 - FERC Study Criteria

Review of November TWG notes

- No changes to current operations are planned
- Heavy snow years can cause ice dams, can result in Tioga Lodge property damage
- Hydrology dataset and Operations Model - how TWG will work with these
- Agencies (USFS) would like copies of instream flow studies
- Low DO in Tioga in hypolimnion?
- Fecal coliform sampling locations

FERC RELICENSING PROCESS

FERC has criteria for study identification

1. Goals and Objectives
2. Relevant Resource Management Goals and Public Interest considerations
3. Existing Information
4. Project Nexus
5. Proposed Methodology
6. Level of effort and Cost



**A GUIDE TO UNDERSTANDING AND
APPLYING THE INTEGRATED
LICENSING PROCESS STUDY CRITERIA**

*Federal Energy Regulatory Commission
Office of Energy Projects*

March 2012

2021 FERC Critical Dates for TWGs

- Jan-July 2021: TWG meetings to develop outline of Study Plans and objectives
- August 2021: SCE Files the PAD
 - After the PAD is filed, TWGs will have approximately 4-5 months to wrap up proposed Study Plans
- Sept/Oct 2021: Study Plan Development
 - *If ILP*: FERC will issue Scoping Document(s) that outlines NEPA requirements
- Oct/Nov 2021: Stakeholders file comments on Study Plans
 - TWGs review received comments and assess whether input needs to be added into Study Plans
- January 2022: SCE Hosts Study Plan meeting
 - TWG members encouraged to attend/participate

Questions?

Water Resources Topics

- Operations, Water Management, Hydrology
- Water Quality
- Fish and Aquatics
- Geology and Soils

Stakeholder “Homework”: Discussion of Resource Management Objectives

- Desired Future Conditions
- Data Gaps
- Potential Study Requests
 - Study Area
 - Project Nexus
 - Goals and Objectives

Due date for Study Plan Requests - February 5, 2021

Tentative TWG 2 & 3 Meeting Schedule

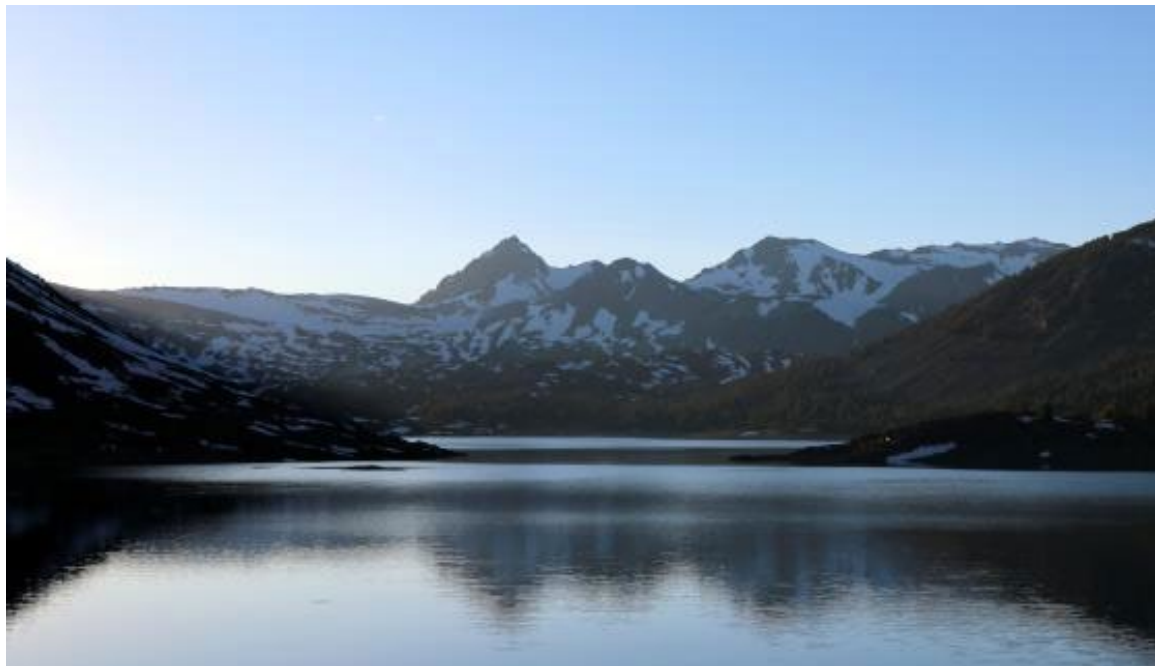
Date		Activity
Week of February 22, 2021	Monday, Feb 22	Water Resources TWG 2
	Wednesday AM, Feb 24	Terrestrial and Botanical TWG 2
	Wednesday PM, Feb 24	Cultural and Tribal TWG 2
	Thursday, Feb 25	Recreation and Land Use TWG 2
Week of March 29, 2021	Monday, Mar 29	Water Resources TWG 3
	Wednesday AM, Mar 31	Terrestrial and Botanical TWG 3
	Wednesday PM, Mar 31	Cultural and Tribal TWG 3
	Thursday, Apr 1	Recreation and Land Use TWG 3

Due date for Study Plan Requests - February 5, 2021



Water Resources

- ▶ TWG Leads
 - ▶ Heather Bowen-Neff, Stillwater Sciences
 - ▶ Seth Carr, SCE Operations



Water Resources

Water Management

- Different minimum flows below each reservoir, influenced by the type of hydrologic year (wet, dry, normal)
- Historic contract (sales agreement) largely dictates how water is stored and released – SCE has no control over what happens to the water once it leaves the Project
- Water rights below the Project on Lee Vining Creek belong to LADWP and managed through a settlement agreement to allocate water between the Los Angeles Aqueduct System (via the Mono Basin Extension at an impoundment approximately 5 miles downstream of the Poole Powerhouse) and Lee Vining's historic watershed



Water Resources

Operations, Instream Flows

- SCE provides minimum flow releases consistent with current FERC license
- Below Saddlebag Dam
 - Flows for Lee Vining Creek below Saddlebag Dam are determined bi-annually in consultation with the USFS
 - Typical:
 - 14 cubic feet per second (cfs) for wet years
 - 9 cfs for average years
 - 6 cfs for dry years
- Below Tioga Dam
 - From December to April: equal to the natural inflow
 - October and November: 2 cfs or natural inflow
 - May to September: depends on water year and inflow
 - License provides for spring-time cutting of “Ice dams” to prevent downstream property damage
- Below Poole Powerhouse Dam
 - August – May: 27 cfs or the natural flow, whichever is less
 - June and July: 89 cfs or natural flow, whichever is less

Water Resources

Geology and Soils

- Saddlebag Lake: within a glacially carved U-shaped valley, 1,200-foot ridges bound the lake on the east and west sides, and talus
- Tioga Lake: in a valley on glacial till with a scattering of rounded rock outcrops.
- Ellery Lake: rocky shoreline with several areas of talus slopes entering the lake from the steep terrain along southern margin.



Saddlebag Lake

Water Resources

Geology and Soils

- Soils: generally thin, limited by harsh environment and recent glaciation; generally coarse-textured, well-drained, and low in organic matter
- Limited information on landslides or other mass movements not mapped in Project vicinity
- Unknown whether Project creeks carry high post-glacial sediment loads
- Erosion Control Plan in place for ground-disturbing activities



Water Resources

Fish Overview



Rainbow trout

- Project area dominated by non-native populations of brown, brook, and rainbow trout
 - Brown trout introduced in basin in 1919, planted regularly until 1942
 - Brook trout introduced in 1931
 - Unmarked, catchable rainbow trout planted annually beginning in 1942; currently planted annually in all three project reservoirs
- CDFW records available from 2015 - 2016 indicate ~47K lbs of trout stocked in Project waters

Water Resources



Lee Vining Creek below Saddlebag Dam

Fish Population Monitoring

- Conducted in Lee Vining Creek from Saddlebag Dam to Slate Creek
- Six Years of data: 1999, 2000, 2001, 2006, 2011, 2016
 - Abundance highest in 2016
 - Biomass highest below Saddlebag Dam and Ellery Lake
 - Fish in good condition
 - No native species known to occur
- Surveys not known to have occurred in Lee Vining Creek between Ellery Lake and Poole PH, Glacier Creek below Tioga Dam, or in Project Reservoirs.

Water Resources

Aquatic Habitat Monitoring



Lee Vining Creek Below Poole Powerhouse

- Instream flow study (1992) on Lee Vining Creek found trout habitat is maximized:
 - Saddlebag Dam to Slate Creek: 15-25 cfs
 - Slate Ck. to Ellery Lake: 20-40 cfs
 - Below Poole PH: 30-40 cfs
- Aquatic habitat monitoring conducted in Lee Vining Creek between Saddlebag Dam and Slate Creek
 - Surveyed in 1999, 2000, 2001, 2006, 2011, and 2016
 - Recorded abundant spawning gravels, loosely compacted sediments, in relatively low gradient areas
 - Occasional LWD
- Monitoring not known in Lee Vining Creek between Slate Creek to Ellery Lake, downstream of Rhinedollar Dam or in Glacier Creek below Tioga Dam.

Water Resources

Benthic Macroinvertebrates

- Data available in Lee Vining Creek
 - Below Saddlebag and Ellery lakes
 - Leakage zone below Saddlebag Dam
 - Below Poole PH
- Data available in Glacier Creek below Tioga Dam
- CSCI Scores: highest condition category
 - Below Poole PH in two locations
 - Downstream of Warren Fork confluence (CSCI = 1.17); Moraine Camp (CSCI = 1.09)
- BMI communities downstream of Project reservoirs similar to nearby natural lakes
- *Didymo* reportedly observed in Lee Vining Creek downstream of Saddlebag Dam



Glacier Creek

Water Resources

Water Quality



Tioga Lake

- Regional water board water quality standards for Project reservoirs and Lee Vining Creek, none for Glacier Creek
- Water quality is generally excellent, but information is limited
 - Major nutrients typically at or below detection
 - Ammonium and orthophosphate occasionally elevated below dams in spring and fall, in conjunction with reduced DO in reservoirs
 - Water quality downstream of Poole PH recorded by SWAMP surveys also good: high DO, low turbidity, low mineral concentrations
 - Water temperatures low; DO high in fish surveys
 - Fecal coliform bacteria concentrations measured below Poole PH low, elevated upstream of LADWP diversion
- Dreissenid mussels not expected to invade due to low calcium concentrations and circumneutral pH

Water Resources

- Questions
- Do you have information you want to share with us?
- Proposed next TWG dates:
 - TWG 2: February 22
 - TWG 3: March 29

Stakeholder “Homework”: Discussion of Resource Management Objectives

- Desired Future Conditions
- Data Gaps
- Potential Study Requests
 - Study Area
 - Project Nexus
 - Goals and Objectives

Due date for Study Plan Requests - February 5, 2021

RELICENSING SCHEDULE OVERVIEW

Relicensing Process Schedule

(subject to change depending on relicensing process)

Date	Activity
August 2, 2021	SCE Files Notice of Intent/Pre-Application Document (NOI/PAD)
September 2021	FERC initiates Tribal consultation
September – October 2021	<i>If ILP:</i> FERC issues Notice of Commencement and Scoping Document 1 (SD1) and hosts scoping meeting/site visit <i>If TLP:</i> FERC approves use of TLP
October 2021	Public Meeting to discuss PAD and NOI
October/November 2021	Stakeholders file comments on NOI/PAD and request studies
November 13, 2021	SCE files proposed Study Plans
January 2022	SCE hosts Study Plan Meeting
April 2022	Revise Study Plans as appropriate
Spring/Summer 2022-2023	Conduct field studies
September 3, 2024	SCE Files Draft License Application
January 31, 2025	SCE Files Final License Application

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Due date for Study Plan Requests - February 5, 2021

How to Stay Involved

- Check the Project website for updates/news at www.sce.com/leevining
- Sign-up to receive Project-related emails through the Contact Registration Form/Project Questionnaire on the Project website
- Participate in an ongoing TWG
- Sign up for FERC's for e-subscription (docket number "P-1388") at www.ferc.gov
- Email Carissa Shoemaker with questions carissa.shoemaker@erm.com



Thank you!