MEETING SUMMARY*
LEE VINING, FERC PROJECT NO. 1388
AQUATIC TECHNICAL WORKING GROUP
MARCH 29, 2021, 10AM -12:30PM

**These meeting notes are documentation of general discussions from the meeting held on the above-noted date and focus on stakeholder questions and comments. These notes are not a verbatim account of proceedings and do not represent any final decisions or official documentation for the project or participating agencies.*

1.0 OBJECTIVE

- Finalize study plan titles, refine goals and objectives
- Discuss outstanding areas of concern

2.0 ATTENDEES

Relicensing Team Members
Seth Carr, SCE
Al Partridge, SCE
Matthew Woodhall, SCE
Martin Ostendorf, SCE
Carissa Shoemaker, ERM
Finlay Anderson, Kleinschmidt
Kelly Larimer, Kleinschmidt
Shannon Luoma, Kleinschmidt
Heather Bowen Neff, Stillwater
Adam Cohen, Stillwater

Facilitation Team
Terra Alpaugh, Kearns & West
Mike Harty, Kearns & West

Technical Working Group Members
Alyssa Marquez, CDFW
Chris Shutes, CSPA
Paul Pau, LADWP
Greg Reis, Mono Lake Committee
Nathan Sill, USFS, Inyo National Forest
Monique Sanchez, USFS
Chad Mellison, USFWS
Sue Burak, Snow Hydrology

3.0 COMPILED ACTION ITEMS

- Relicensing Team will:
    - Circulate Benthic Macroinvertebrate data and Adam Cohen's study.
    - Share their conclusions about the lack of nexus between the Project and water quality near dispersed camping sites with the Recreation TWG.

- Schedule a meeting focused on hydro data and operations in about a month (late April, early May) and a May 24 full TWG meeting.

4.0 WELCOME & INTRODUCTIONS

Mike Harty, the facilitator, welcomed TWG members to the meeting and provided a review of the agenda and action items and outcomes from the February meeting.

Finlay Anderson, the Relicensing Team ("Team") Lead, reported that he and SCE met with LADWP to better understand the Settlement Agreement related to the LADWP Diversion Dam and how downstream diversions are conducted. They believe this background will help them better understand downstream interests and any intersections with Lee Vining Project operations.

5.0 DISCUSSION OF STUDY PLAN REQUESTS

Finlay shared the kinds of studies being considered in the other resource areas and a list of the study topics requested by stakeholders within the aquatic resource area that are being considered for inclusion in the study plan. Those study topics are as follows (in parentheses are the associated study titles being proposed by SCE to encompass each topic):

- Instream flow needs assessment (Habitat Assessment and Sediment Characterization study)
- Peak flow study (partially addressed by operations model)
- Fish distribution baseline study (creek) (Stream Fish Populations study)
- Fish distribution baseline study (reservoirs) (Reservoir Fish Populations study)
- Sediment and geomorphology (Habitat Assessment and Sediment Characterization study)
- *Didymo* and other aquatic invasive species (Aquatic Invasive Plants and Algae study)
- Water quality assessment (Water Quality study)
- Benthic Macroinvertebrate Study (new since last TWG; existing information)
- Hydropower peaking operations (new since last TWG)
- Information sharing constraints (new since last TWG)

Finlay also highlighted the study elements that have been requested, but which the Team does not feel meet the FERC rationale for inclusion. First, MLC requested a Peak Flow Study to restore conditions downstream of LADWP diversion dam. The Team does not find a clear nexus for Project operations downstream of the diversion dam that would justify this study. However, the proposed Operations Model and hydrology data set supporting it will provide the information needed by MLC to make comparisons with its Synthesis Report. Second, there was a request for a water quality assessment at Hwy 120 road pull-outs and dispersed camping areas near Project reservoirs. Similarly, the Team asserts that Hwy 120 has no nexus to project operations or maintenance in that it is a California State Highway maintained by Caltrans; dispersed camping is also not related to or affected by Project operations or maintenance and existed prior to the Project's existence.

Feedback from TWG participants is summarized below:

- Question (Q) (MLC): The lack of nexus for a peak flows study is surprising in that the only difference between the current peak flow and the goal peak flow is due to SCE operations. If there is not an adequate nexus to address this question in the relicensing, what would the process be to get project operations to change to enable us to achieve the downstream restoration objectives?

    - Response (R) (Team): There will be a conversation about project operations later today. SCE is not proposing a change in operations under the new license. MLC is proposing a change in operation, but that is not how the NEPA process works. To the extent that there is information in the operations model that will support an understanding of resource objectives downstream, SCE will provide that information for MLC's use.
    - R (MLC): The operations model seems like it will provide the information requested by the Peak Flows Study. Is a change in operations still something that could get included in the new license without a study? Or is a study a prerequisite for an operations change?
    - R (Team): No, a study is not a prerequisite. Any operational change would need to be proposed to FERC along with an effects analysis (i.e., how that change would impact the environment), but we can analyze the impacts as long as there is available information. If we want to analyze the effects of a change in operations later in the process, that will still be an option.
    - R (SCE): SCE explained that they manage the water that comes into the system-- that volume of water, along with the reservoir volumes and mandated storage levels, constrains their operational choices. There may be a misconception that SCE is chasing generation. The operations model will explain how water is moved through the system and what choices are available at any given time.
- Q (USFS): Will the conclusion on the lack of nexus between dispersed camping and water quality be shared with the recreation group? Our staff with recreation expertise is in that group and will need to evaluate that conclusion.
    - R (Team): Yes, we will cross-reference this conversation with the recreation group. [**ACTION ITEM]**

The studies proposed thus far are listed below, along with a summary of comments and questions made by the TWG members with respect to each study. The studies are divided into three categories – first, those that the Team agrees meet the criteria for inclusion in the study plan and proposes to continue developing; second, those they agree meet the criteria but for which they believe the requested information may already exist; and third, those that were proposed recently and are still under consideration.

Studies for inclusion in the Study Plan

For each study, the Team outlined the objectives, the rationale/project nexus, and the proposed study area. The only questions or comments raised were with regards to the Operations Model; a summary of that discussion is included in that section.

Study Title: Aquatic Habitat Assessment and Sediment Characterization

The purpose of this study is assess habitat conditions for managed fisheries within stream reaches downstream of Project reservoirs AND characterize sediment condition for managed fisheries in the Project Area, thereby combining two of the study requests into a single study.

Study Title: Operations Model

The purpose of this study is creation of an Operations Model to assist SCE and stakeholders in understanding how Project operations interact with stream flows and reservoir elevations; the model will accommodate physical and hydrographic constrains to operations, including lake elevation controls at Saddlebag. Later in the process, the Ops model will ensure that PM&Es under consideration are feasible given the historical hydrograph.

- Q (CSPA): Do you know what platform you will use for the Ops Model and if it will be publicly available?

        - R (Team): Probably excel.
        - C (CSPA): Sometimes there are issues representing reservoirs with excel so relicensing teams have used ResSim, but Excel has the advantage of being much more accessible.
        - R (Team): The Team still needs to understand the bathymetry and constraints of the reservoirs, which will inform us whether something more sophisticated is needed, but SCE staff generally have a good idea of the rating curve of each reservoir, which allows them to be accurately represented in Excel.
    - Q (CSPA): Would the model be available to relicensing participants?
        - R (Team): Transparency is important, but there are also concerns about handing a model over to non-experts given the complexity of the system and the possibility of misusing or misunderstanding the model results. We will need to develop protocol for information sharing. This will be a continued conversation.
        - C (CSPA): In the western Sierra, there have been good experiences with licensees sharing excel models, which allow relicensing participants to thoughtfully look at operational options and weed out approaches that are not feasible; this saves time for consultants/operators so they do not have to run all the options. CSPA is in favor of frequent communication and review of modeled scenarios.
        - C (SCE): Agree with what you are saying. The nuances of the model will be outlined in the Study Plan, and the inputs will be transparent. When we get further along, we will address accessibility; sometimes when the model is shared and people do not actually understand it, it creates more work. One approach is to convene this TWG to QA/QC the model and get consensus on the reliability of the outputs, and then work together to determine which scenarios to run.
    - Q (CSPA): Have you considered the timestep of the model? CSPA recommends a daily model since that timestep will be important for many of the questions participants are interested in.
        - R (SCE): Better understanding management goals will help us understand what timestep is needed.
    - Q (CSPA): Assume that outputs will include generation, true powerhouse output, stream flows in the project-effected reaches above and below the Powerhouse?
        - R (SCE): That all sounds reasonable. Will assess whether additional nodes are needed.
    - Q (CSPA): Will you put together a hydrology dataset and share it with participants?
        - R (Team): Yes, that will be a prerequisite for the model.
        - C (CSPA): There should be a description of general operations in the PAD, along with the hydrology dataset. It is important to establish that baseline understanding now.
    - C (USFS): USFS supports sharing the operations model; it is important for us to be able to run scenarios; the TWG can always review results together to ensure a shared understanding.

Study Title: Stream Fish Populations
The purpose of this study is to assess species composition, density, and age-distribution of existing trout fishery in stream reaches downstream of Project reservoirs.

Study Title: Reservoir Fish Populations

The purpose of this study is to assess species composition, density, and age-distribution of existing trout fisheries in Project reservoirs.

Study Title: Aquatic Invasive Plants and Algae
The purpose of this study is to assess the extent and distribution of invasive aquatic plants and algae (including Didymosphenia germinate) in stream reaches downstream of Project reservoirs.

Study Title: Water Quality Assessment
The purpose of this study is to assess water quality within Project-affected stream reaches and Project reservoirs.

Studies that may be met with existing information

Study Title: Benthic Macroinvertebrate Study
The Team stated that the expressed purpose behind this study request was to develop baseline benthic macroinvertebrate (BMI) characteristics. There are several data sets on BMI for the project area -- from the Sierra Nevada Aquatics Research Lab (SNARL), the CDFW lab, and Adam Cohen's thesis work – which together span from the early 2000s to 2017. Cohen's work compares BMI communities downstream of project reservoirs with those downstream of natural lakes over multiple seasons for several years; he was examining drivers of community structure difference and found that interannual hydrologic variability overwhelmed all other potential drivers of difference. The Team believes these datasets are robust and meet the needs of the study goals and objectives.

Feedback included:

- Q (CDFW): CDFW proposed the study and was not aware of this data. Great that there are existing comparative studies. What level were the BMI identified to in Cohen's study?
  - R (Team): Chironomids were identified to tribe or sub-family taxonomic level; all other taxa were identified to genus or species.
  - C (CDFW): Please circulate this data and study. **[ACTION ITEM]**
- Q (CDFW): Is there a way to see what the project flows were during the time period of Cohen's study?
  - R (Team): The Project flow data is summarized in the paper, but all the data is also available online through USGS.
- C (CDFW): Want to look through the data presented today in more detail to ensure there is not anything else that would be useful, but this appears to be what I was picturing.

Newly proposed studies under consideration
MLC submitted two additional study requests since the last meeting. The group's discussion about both proposed studies is summarized below.

Study Title: Hydropeaking
SCE explained that they are still reviewing the request and are investigating what might have caused the peaks in 2015 and 2016 that the request identifies. At this point, they assume the peak resulted from an isolated grid situation, which generally occurs if they lose the Casa Diablo-Rush Creek line. When that occurs, the Lee Vining Project can carry the Mono Basin by passing 30-40 cfs through the plant. This situation occurs approximately twice a year and can last from 20 minutes to a couple days if the lack of connection is because the line has fallen. The time of

year MLC highlighted would not be the period in which they might increase generation load to meet State demands. The plant's constraints are a max of 110 cfs and a minimum of 10 cfs, which is required to meet minimum flow requirements.

Feedback included:

- C (MLC): It is good to hear that those kinds of peaks are not typical and look forward to hearing the confirmed cause. MLC has not looked much at the sub-daily data over the last couple years.
- C (Team): It would be helpful to know what percentage of the time the Project operates in the ranges MLC identified.
- C (Team): MLC was also interested in the impacts of ramping on stage change downstream in terms of safety implications. To provide a sense of how sensitive the creek is to flow changes, one study showed that when releases were ramped from 0 to 109 cfs, there was a stage rise of 1.7 feet over 1.5 hours a quarter mile downstream; at the LADWP Diversion Dam, the change was 0.9 ft over 45 minutes.
- Q (CSPA): Is the general operating mode not to peak? That is, are the peaks in MLC's graph exceptional?
    - R (SCE): The intent is to meet the demands of the system, so Lee Vining operates on a ramping model, but it is limited to flows between 10 and 110 cfs, as well as other constraints like reservoir levels.
- Q (CSPA): Do you think the need for peaking will increase? Or is that less of a factor in this location?
    - R (SCE): Isolated situations will always continue to happen. Also, the more renewables that come online, the more important the ability to peak becomes.
    - Q (CSPA): Is that all influenced by the State or is there a local element?
    - R (SCE): Lee Vining is part of the state-wide grid overseen by California Independent System Operator (CAISO); the Project does not provide local power except in exceptional circumstances.
    - C (CSPA): It would be helpful to know the frequency of these events when the Project has to provide power locally.
    - C (SCE): In 2017, because it was a wet water year, Lee Vining did not run as a peaking plant because of the need to pass water consistently; ran 110 cfs through the plant.
- C (Team): Separating out the water year types might be helpful in order to drill down on when and how frequently these localized events occur.
    - C (MLC): It is concerning that these peaking events might be more common in the future. Any downstream studies that get at whether this is a problem or could become a problem if it became more frequent or extreme would be useful.

Study Title: Information Sharing

The Team is not sure whether this is a study request or more of a request for a dialogue. They asked MLC to share more about what they see the need as.

MLC explained that prior to 2000, SCE staff were more willing to share information; for instance, operators shared monthly operations sheets upon request. MLC's perception was that information sharing was constrained after deregulation. This is a challenge: USGS does not post reservoir level information until six months after the end of the water year (currently, MLC can access data through Sept 30, 2020); CDEC provides information on Saddlebag and Gem Lakes, but MLC has to make assumptions about Tioga and Ellery. The delay of data means lack of

reliable information on runoff, which impacts downstream work. More sharing of preliminary data before it is finalized by USGS – for instance, if that information was available on a real-time website or even via a phone call – would be very useful. The idea of the study request was to look at what SCE's constraints are in terms of sharing information; i.e., can any solutions for information sharing elsewhere be implemented here? What are the reasons for lack of data sharing? Could they be changed?

Feedback included:

- R (SCE): There are always concerns about preliminary data being misinterpreted. We want to understand more about what you need and what the nexus is to the relicensing. More discussion on this topic is welcome.
- C (CSPA): This may not need to be a study plan, but the interest is in what the constraints are for sharing real-time info. There are ways of addressing the concerns about provisional data that address licensees' concern about being taken to task for imperfect data. Our interest is in understanding what the real concerns are for SCE.
    - R (SCE): Agree with your statements. Do not see that as a study but want to continue the conversation.

6.0 SCHEDULE & NEXT STEPS

The Team explained that the PAD will not have complete study plans, but it will have detailed outlines of the proposed studies. The PAD will be filed in August. SCE will be proposing a TLP, so there will be a joint agency meeting to discuss that in the late fall.

The next meetings will be:

- A meeting focused on hydrology data and operations in about a month (early May)
- A May 24 full TWG meeting

CSPA asked what SCE will approach in-person versus virtual TWG meetings once COVID restrictions have been lifted. SCE said that their thought is to have a mixture of in-person and virtual meetings. CSPA asked SCE to provide a web option even at in-person meetings and not to limit it to a conference line for those who are remote to ensure continued participation.

7.0 UPCOMING TWG MEETINGS

Aquatics 4	**May 24, 2021 9:30am**
Terrestrial 4	May 26, 2021 10am
Cultural and Tribal 4	May 26, 2021 1:30pm
Recreation and Land Use 4	May 27, 2021 10am