

SOUTH SWP HYDROPOWER RELICENSING



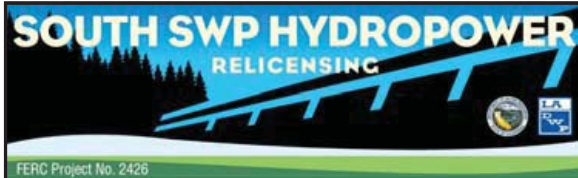
FERC Project No. 2426

Proposed Study Plan Meeting

Embassy Suites, Santa Clarita, California

February 8, 2017

1

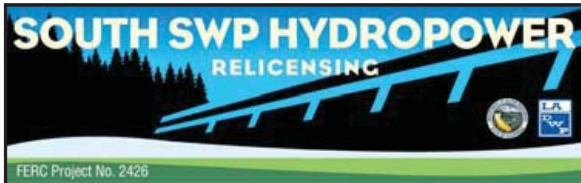


Meeting Purposes

- Provide an overview of the California Department of Water Resources' and Los Angeles Department of Water and Power's (Licensees) January 13, 2017 Proposed Study Plan (PSP) for South SWP Hydropower (Project)
- Provide clarification of PSP, as needed
- Attempt to resolve any potential issues with respect to the Licensees' PSP
- If parties agree additional discussion would be useful to resolve study differences, agree on date, location, and agenda for each additional meeting through March 2017

February 8, 2017

2

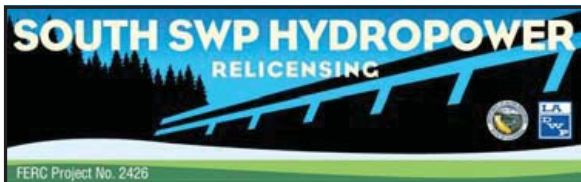


Meeting Agenda

- Project Overview
- PSP Development
- Study Requests
- Studies
- Next Steps
- Process Planning

February 8, 2017

3

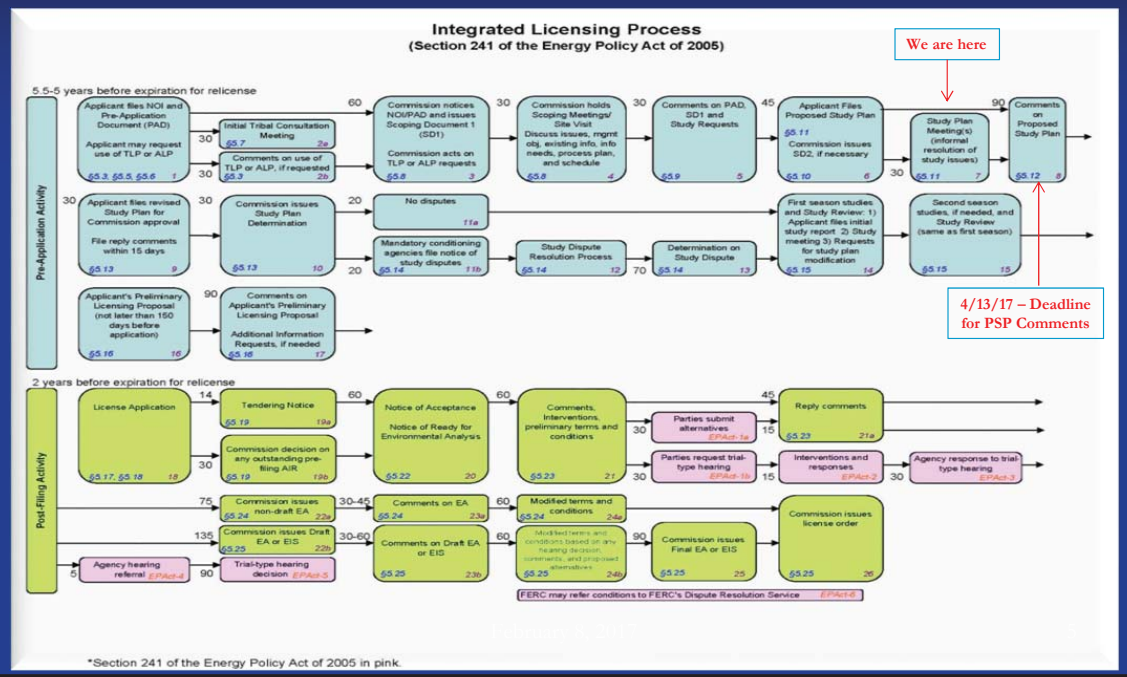


Project Overview

February 8, 2017

4

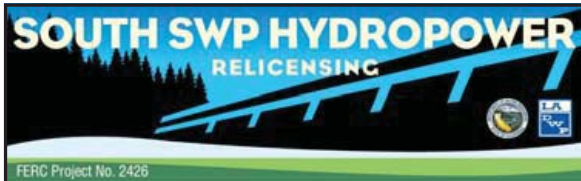
Relicensing Schedule



Principal Project Facilities

- **Warne Development**
 - Quail Lake
 - Lower Quail Canal
 - Peace Valley Pipeline Intake Embankment
 - Peace Valley Pipeline
 - Gorman Bypass Channel
 - William E. Warne Powerplant
 - Warne Transmission Line
- **Castaic Development**
 - Pyramid Lake and Dam
 - Angeles Tunnel and Penstocks
 - Castaic Powerplant
 - Castaic Transmission Line
 - Elderberry Forebay and Dam



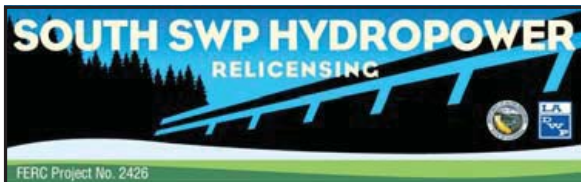


Existing Project Operations

- Warne Power Development (75 MW) operated as run-of-release
 - Recovers energy from State Water Project (SWP) water as the water is delivered to Southern California
 - No appreciable local surface water used (i.e., Quail Lake is an off-stream impoundment)
- Castaic Power Development (1,275 MW) operated as pumped-storage
 - SWP water used in the Warne Power Development passes through Pyramid Lake and the Castaic Powerplant to recover energy from SWP water
 - SWP water is captured in Elderberry Forebay and pumped back through Castaic Powerplant to Pyramid Lake, where it is scheduled again through the Castaic Powerplant for additional power generation, as needed per electric load demand
 - Process repeated until SWP water is needed for downstream delivery to Southern California
 - Natural inflows into Pyramid Lake and Elderberry Forebay are passed downstream with no storage and not used for power generation

February 8, 2017

7

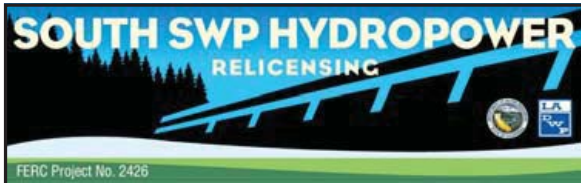


Proposed Project Changes

- Change to existing Project facilities with the addition of the existing Quail Detention Embankment
- Change existing Project boundary to encompass all Project facilities, while removing lands not related to Project functions
- No changes to existing Project operations (adhere to currently authorized releases into Pyramid reach that mimic the natural hydrograph to avoid “take” of arroyo toad)
- No changes to existing Project resource protection, mitigation, and enhancement (PM&E) conditions in existing license
 - Based on the results of relicensing studies and other considerations, Licensees may propose modifying the existing license PM&E conditions or adding new PM&E conditions.

February 8, 2017

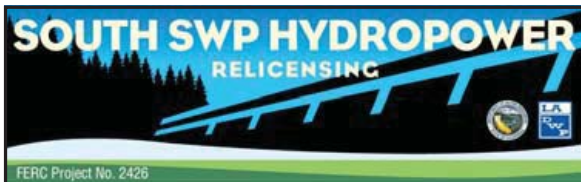
8



PSP Development

February 8, 2017

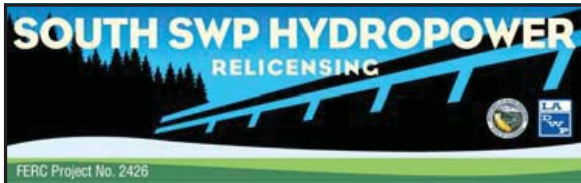
9



Studies Proposed in PAD

- Section 5 of Licensees PAD provided an analysis of the gap between:
 1. information that is existing, relevant, and reasonably available
 2. information that is needed to assess Project effects and to inform requirements in the new license
- Based on the data gap analysis, Licensees included in Appendix I of the PAD detailed outlines for 13 studies believed necessary to supplement existing, relevant, and reasonably available information

1. Aquatic Invasive Species	8. ESA-Listed Plants
2. Quail Lake Fish Population	9. ESA-Listed Amphibians – California Red-Legged Frog
3. Pyramid Reach Fish Populations	10. ESA-Listed Bird Species – Southwestern Willow Flycatcher and Least Bell’s Vireo Riparian Habitat Evaluation
4. Special-Status Aquatic Amphibians and Semi-Aquatic Snakes	11. Recreation Facilities Demand Analysis and Condition Assessment
5. Botanical Resources	12. Cultural Resources
6. Non-Native Invasive Plants	13. Tribal Resources
7. Special-Status Terrestrial Wildlife Species	

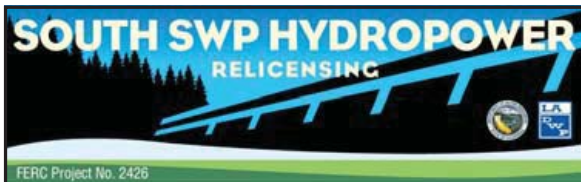


Comments on PAD Studies

- Nine Relicensing Participants filed comments on the Licensees' PAD
- Five Relicensing Participants included detailed study requests, for a total of 37 separate study requests (there is overlap on many requests – Refer to Table 1.2-1 in the PSP, and meeting handout)
 - USFS – 32 detailed study requests
 - NPS – 1 detailed study request
 - CDFW – 21 detailed study requests
 - SWRCB – 12 detailed study requests
 - AW – 1 detailed study request
- NMFS' comments did not include detailed study requests, but they supported other study requests
- Comments from USFWS, FEMA, and CalTrout did not include specific study requests

February 8, 2017

11



PSP

- Section 1, Introduction: Provides background and summary
- Section 2, Reply to Relicensing Participant Study Requests: Provides the Licensees' reply to each of the 37 study requests.
 - In general, provides for each element in requested studies whether the element was “Adopted”, “Adopted With Modifications”, or “Not Adopted”
 - Licensees used FERC's seven study criteria as a guide in replying
- Section 3, Study Plans: Provides the Licensees' detailed study plans
- Section 4, Next Steps: Describes the Licensees' plans for meetings to try to maximize agreement regarding study plans, for periodic progress reporting, and for making study information available

February 8, 2017

12

Study Requests

February 8, 2017

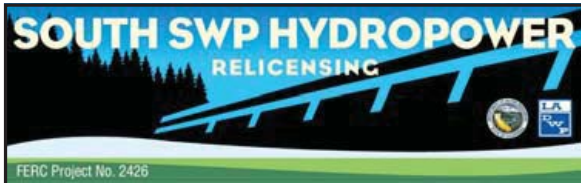
13

Requests Adopted

- Licensees adopted with modifications elements of 21 requested studies
 - Where appropriate, the Licensees included the adopted elements in PAD proposed study plans, rather than developing a new study
- Five new studies were added
- Section 2 of the PSP describes study elements adopted by the Licensees

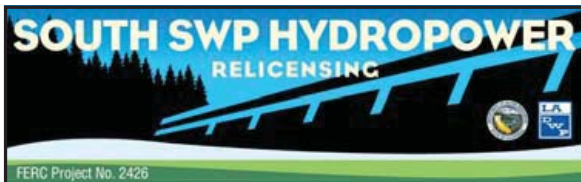
February 8, 2017

14



FERC ILP Study Request Criteria

1. Describe the goals and objectives of each study proposal and the information to be obtained
2. If applicable, explain the relevant resource management goals of the agencies or Indian tribes with jurisdiction over the resource to be studied
3. If the requester is not a resource agency, explain any relevant public interest considerations in regard to the proposed study
4. Describe existing information concerning the subject of the study proposal, and the need for additional information
5. Explain any nexus between project operations and effects (direct, indirect, and/or cumulative) on the resource to be studied, and how the study results would inform the development of license requirements
6. Explain how any proposed study methodology (including any preferred data collection and analysis techniques, or objectively quantified information, and a schedule including appropriate filed season(s) and the duration) is consistent with generally accepted practice in the scientific community or, as appropriate, considers relevant tribal values and knowledge
7. Describe considerations of level of effort and cost, as applicable, and why any proposed alternative studies would not be sufficient to meet the stated information needs



Requests Not Adopted

- In general, the Licensees did not adopt a study request, or an element of a study request:
 - If the Licensees believed existing information was adequate or the Relicensing Participant did not establish a need for the information (Criterion 4);
 - For which the Relicensing Participant did not establish a reasonable Project nexus, such as study elements involving the area upstream of the Project (Criterion 5);
 - If the information would not inform license requirements, such as study elements that would lead to changes in flow in Pyramid reach (Criterion 5);
 - If the study methodology was not described or not consistent with typical relicensing studies (Criterion 6); or
 - If the request was related to a process not required by the ILP, such as individual study reports or consultation
- The Licensees did not adopt 16 requested studies and elements of some study requests (See Table 1.2-1 of the PSP for a list of the 16 study requests not adopted, and Section 2 of the PSP for a description of not adopted elements)

Studies

February 8, 2017

17

Studies Proposed in PSP

Aquatics / Water

- Aquatic Invasive Species
- Quail Lake Fish Population
- Pyramid Reach Fish Population
- Special Status Aquatic Amphibians and Semi-Aquatic Snakes
- Indicators of Hydrologic Alterations
- Water Quality and Temperature
- Fish Entrainment Risk Assessment

* *Red font text shows a change in the study name that was in the PAD or a study that was not proposed in the PAD.*

February 8, 2017

18

Studies Proposed in PSP

Botanical/Wildlife

- Botanical Resources
- Non-Native Invasive Plants
- Special-status Terrestrial Wildlife Species – **California Wildlife Habitat Relationships**
- ESA-Listed Plants
- ESA-Listed Amphibians – California Red-legged Frog
- ESA-Listed **Riparian** Bird Species – Southwestern Willow Flycatcher, Least Bell's Vireo, and **Yellow-billed Cuckoo** Riparian Habitat Evaluations
- **ESA-Listed Terrestrial Wildlife Species – California Wildlife Habitat Relationships**

* **Red** font text shows a change in the study name that was in the PAD or a study that was not proposed in the PAD.

February 8, 2017

19

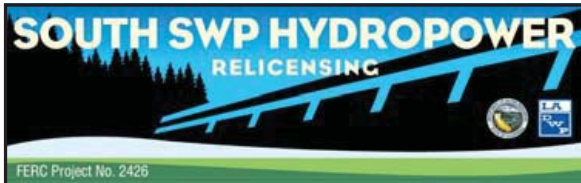
Studies Proposed in PSP

Cultural/Confidential

- Cultural Resources
- Tribal Resources

February 8, 2017

20



Studies Proposed in PSP

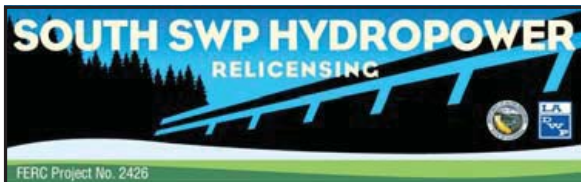
Recreation/Other

- Recreation Facilities Demand Analysis and Condition Assessment
- *Visual Quality*

* *Red font text shows a change in the study name that was in the PAD or a study that was not proposed in the PAD.*

February 8, 2017

21

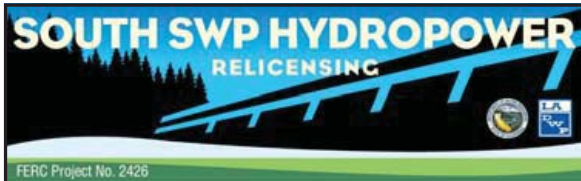


Process Planning Goals

- Attempt to resolve differences in an efficient manner for both Relicensing Participants and Licensees
- Hold a meeting mid to late March to document any study agreements (i.e., what and who agreed) to facilitate Relicensing Participants' PSP comments

February 8, 2017

22



Next Steps

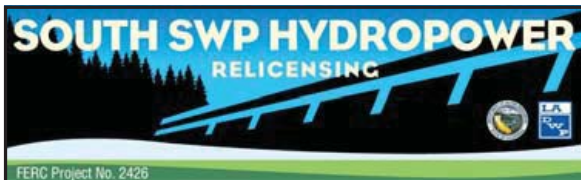
- Collaboratively identify for which studies additional discussion could reasonably resolve differences, and the specific differences

- Agree on dates, locations, and agenda (i.e., which studies will be discussed at the meeting and what will be discussed on each study) for additional meetings through March 2017
 - To the extent possible, group the identified studies into similar technical areas to facilitate the effective involvement of technical experts (e.g., discuss aquatic studies in the morning and terrestrial studies in the afternoon)
 - Proposed studies may change from the PSP to the Revised Study Plan based on additional information

- Review agreements and action items from today's meeting

February 8, 2017

23



Break

February 8, 2017

24

Process Planning

February 8, 2017

25

Step 1

- Organize studies into 3 groups (A, B, and C)
 - Product: 3 flip charts – 1 for each group of studies

A

- Might resolve differences with some discussion

B

- Might resolve differences with a moderate amount of discussion

C

- Unlikely to resolve differences

February 8, 2017

26

Step 2

- Organize A and B into four resource categories
 - Product – flip chart A and B with each study grouped by category

A

- Resource Categories
 - Aquatics/Water
 - Botanical/Wildlife
 - Cultural/Confidential
 - Recreation/Other

B

- Resource Categories
 - Aquatics/Water
 - Botanical/Wildlife
 - Cultural/Confidential
 - Recreation/Other

Step 3

- Estimate amount of time to resolve differences and who would be involved in discussion for each Study
 - Product – 2 flip charts from Step 2 with time and resources for each meeting

A

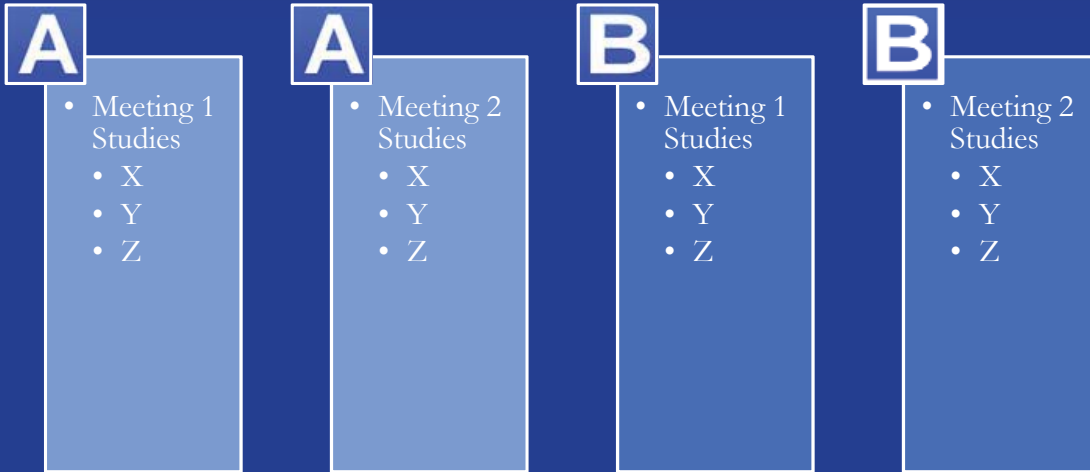
- Aquatics/Water
 - Study (X, Y, Z...)
 - Time
 - Who
- Botanical/Wildlife
 - Study (X, Y, Z...)
 - Time
 - Who
- Cultural/Confidential
 - Study (X, Y, Z...)
 - Time
 - Who
- Recreation/Other
 - Study (X, Y, Z...)
 - Time
 - Who

B

- Aquatics/Water
 - Study (X, Y, Z...)
 - Time
 - Who
- Botanical/Wildlife
 - Study (X, Y, Z...)
 - Time
 - Who
- Cultural/Confidential
 - Study (X, Y, Z...)
 - Time
 - Who
- Recreation/Other
 - Study (X, Y, Z...)
 - Time
 - Who

Step 4

- Determine number of meetings necessary to resolve differences based on time and attendees
 - Product – 1 flip chart for each meeting/call

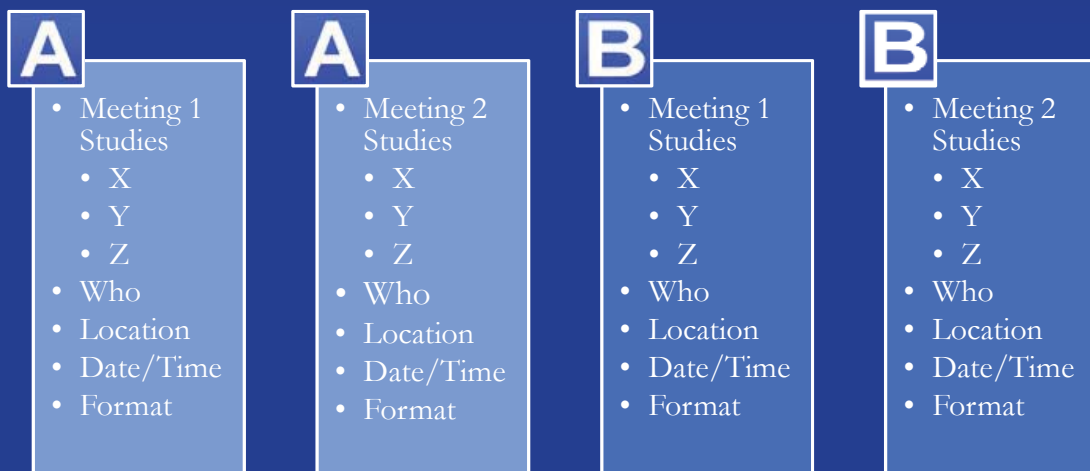


February 8, 2017

29

Step 5

- Determine location, date, and format (conference call, in person) for each meeting
 - Product – Step 4 flip charts including meeting location, date, and format



February 8, 2017

30

Step 6

- Determine meeting expectations and needs
 - Product – Step 5 flip charts with meeting expectations and needs included

<div style="border: 1px solid white; padding: 5px; text-align: center; font-weight: bold; font-size: 2em; margin-bottom: 5px;">A</div> <ul style="list-style-type: none"> Meeting 1 Studies X Y Z Who Location Date/Time Format Needs 	<div style="border: 1px solid white; padding: 5px; text-align: center; font-weight: bold; font-size: 2em; margin-bottom: 5px;">A</div> <ul style="list-style-type: none"> Meeting 2 Studies X Y Z Who Location Date/Time Format Needs 	<div style="border: 1px solid white; padding: 5px; text-align: center; font-weight: bold; font-size: 2em; margin-bottom: 5px;">B</div> <ul style="list-style-type: none"> Meeting 1 Studies X Y Z Who Location Date/Time Format Needs 	<div style="border: 1px solid white; padding: 5px; text-align: center; font-weight: bold; font-size: 2em; margin-bottom: 5px;">B</div> <ul style="list-style-type: none"> Meeting 2 Studies X Y Z Who Location Date/Time Format Needs
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February 8, 2017

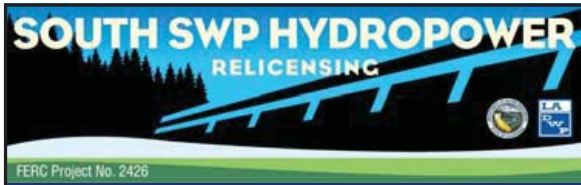
31

Action Items and Follow-up

- Review action items
- Within one week:
 - Licensees will distribute the Step 6 flip charts to assigned meeting participants
 - Licensees will distribute Word versions of specific PSP study plans for redlining before the meeting

February 8, 2017

32

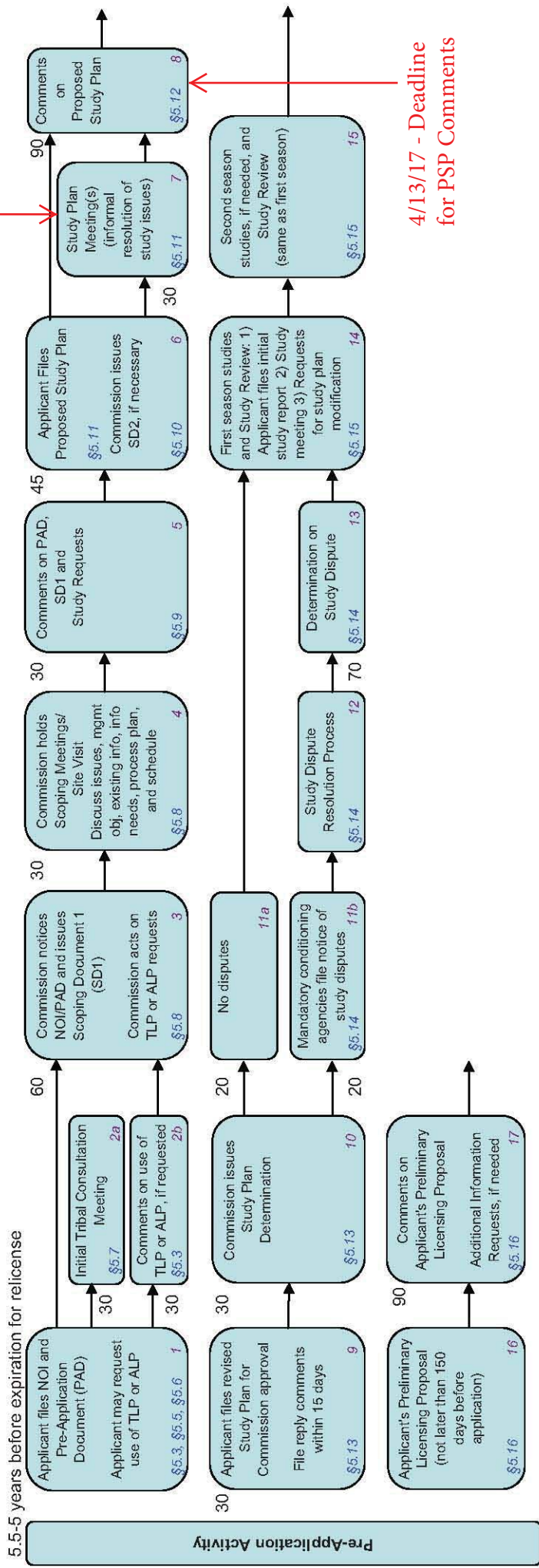


Adjourn

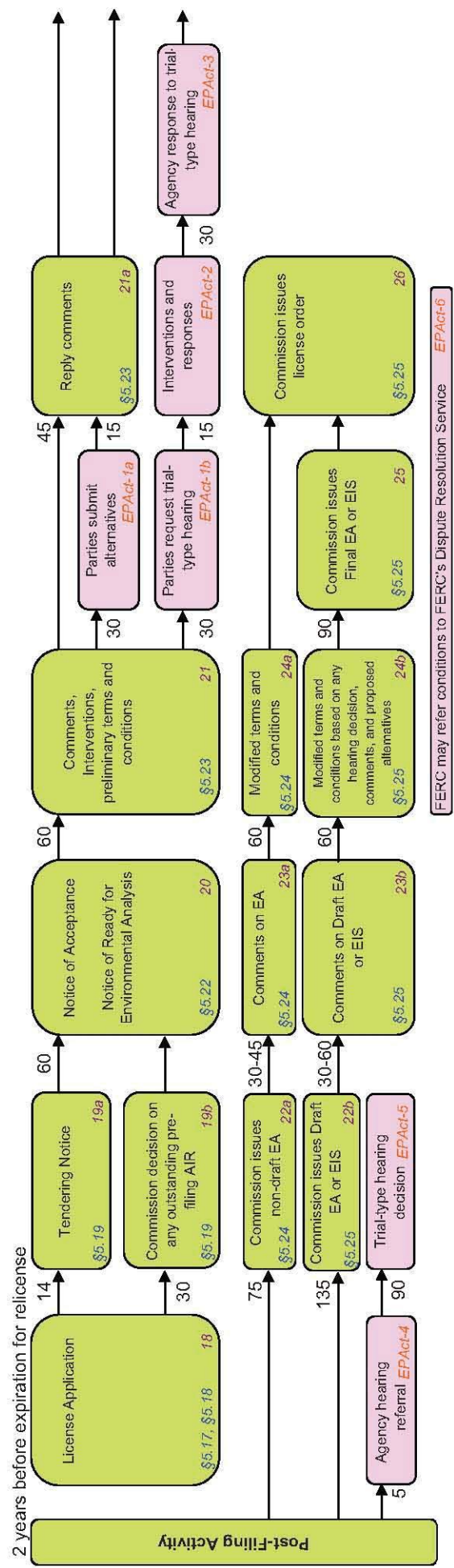
- DWR and LADWP thank you for your continued participation in the South SWP Hydropower relicensing effort
- <http://south-swp-hydropower-relicensing.com/>

Integrated Licensing Process (Section 241 of the Energy Policy Act of 2005)

We are here



4/13/17 - Deadline for PSP Comments



FERC may refer conditions to FERC's Dispute Resolution Service EPAct-6

*Section 241 of the Energy Policy Act of 2005 in pink.

Table 1.2-1. Stakeholder Requested New Studies

USFS Study Requests	CDFW Study Requests	SWRCB Study Requests	AW Study Requests	NPS Study Requests	Licensees' Reply to Requested Study
Bioaccumulation		Bioaccumulation Study			Not Adopted
Physical Habitat Simulation (PHABSIM) for Fish Populations Upstream and Downstream of Pyramid Lake	Physical Habitat Simulation (PHABSIM) for Fish Populations Upstream and Downstream of Pyramid Lake	Physical Habitat Simulation for Fish Populations			Not Adopted
Algae Upstream, Downstream, and Within Pyramid Lake					Not Adopted
Benthic Macroinvertebrates Upstream and Downstream of Pyramid Lake	Benthic Macroinvertebrates Upstream and Downstream of Pyramid Lake	Aquatic Invertebrates Study			Not Adopted
Stream Fish Populations Downstream of Pyramid Dam	Stream Fish Populations Downstream of Pyramid Dam	Fish Populations (Streams)			Adopted with Modification
Stream Fish Populations Upstream of Pyramid Dam	Stream Fish Populations Upstream of Pyramid Dam				Not Adopted
Aquatic Invasive Species	Comprehensive Aquatic Invasive Species Survey				Adopted with Modification
Environmental DNA (eDNA) on Upper and Middle Piru and Within Pyramid and Quail Lakes					Adopted with Modification
Water Quality	Water Quality	Water Quality Assessment			Adopted with Modification
Channel Morphology	Channel Morphology	Channel Morphology Assessment			Not Adopted
Hydrologic Alteration / Flow Regime	Hydrologic Alteration / Flow Regime	Indicators of Hydrologic Alteration			Adopted with Modification
Fish Passage	Fish Passage	Fish Passage			Not Adopted
Wildlife Study Plan: Bats	Wildlife (Bats)				Adopted with Modification
Wildlife Study Plan: Large Mammal Movement	Wildlife Study Plan – Large Mammal Movement				Adopted with Modification
Wildlife Study Plan: Raptors Species					Adopted with Modification
Wildlife Study Plan: ESA Terrestrial Species	Special-status Species – Special-status Terrestrial Species (Avian, Mammal, Invertebrate)				Adopted with Modification
Wildlife Study Plan: TES Reptiles and Amphibians	Special-status Species – Reptile and Amphibian				Adopted with Modification
Wildlife Study Plan: Migratory Bird Act Treaty Protected Bird Species, Forest Service Sensitive Species, CDFW Fully Protected and Species of Special Concern					Adopted with Modification
Botanical Resources	Botanical Resources				Adopted with Modification
Invasive Noxious Weeds	Comprehensive Non-native Plant Survey (Aquatic and Terrestrial)				Adopted with Modification
Engineering					Adopted with Modification
Large Woody Debris	Large Woody Debris				Not Adopted

Table 1.2-1. Stakeholder Requested New Studies (continued)

USFS Study Requests	CDFW Study Requests	SWRCB Study Requests	AW Study Requests	NPS Study Requests	Licensees' Reply to Requested Study
Groundwater	Groundwater				Not Adopted
Groundwater Dependent Ecosystems	Groundwater Dependent Ecosystems				Not Adopted
Scenery Integrity Objective Study					Adopted with Modification
Assess Projected Recreation Use and Demand in the Project Area					Adopted with Modification
Assess Recreation Carrying Capacity of the Project Area					Adopted with Modification
Assess Regional Uniqueness and Significance of the Project Area's Primary Recreation Opportunities					Adopted with Modification
Assess Fire Hazards from Project-Induced Recreation					Not Adopted
Whitewater Boating Study			Whitewater Recreation Study	Whitewater Boating Study	Not Adopted
Project-Related Roads Maintenance and Use Study					Not Adopted
Water Temperature Monitoring and Development of Water Temperature Model		Water Temperature Model			Adopted with Modification
	Fish Entrainment Risk Assessment	Fish Entrainment			Adopted with Modification
	Comprehensive Argentine Ant Survey				Not Adopted
	Herbicide, Pesticide and Rodenticide Effects on Vegetation and Wildlife				Not Adopted
		Water Balance / Operations Model			Not Adopted
		Fish Populations (Reservoirs)			Adopted with Modification
Requested Studies – 32	Requested Studies – 21	Requested Studies – 12	Requested Studies – 1	Requested Studies – 1	21 – Adopted with Modification 16 – Not Adopted
Total Requested Studies – 37					37

Key:
 AW = American Whitewater
 CDFW = California Department of Fish and Wildlife
 ESA = Federal Endangered Species Act
 eDNA = environmental deoxyribonucleic acid
 NPS = United States Department of the Interior, National Park Service
 PHABSIM = Physical Habitat Simulation
 SWRCB = State Water Resources Control Board
 TES = Threatened, Endangered and Sensitive
 USFS = United States Department of Agriculture, Forest Service

South SWP Hydropower, FERC Project No. 2426

PSP Studies

Aquatics / Water

- Aquatic Invasive Species
- Indicators of Hydrologic Alteration
- Water Quality and Temperature
- Fish Entrainment Risk Assessment
- Quail Lake Fish Populations
- Pyramid Reach Fish Populations
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Cultural / Confidential

- Cultural Resources
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- ESA-Listed Terrestrial Wildlife Species – California Wildlife Habitat Relationships

Recreation / Other

- Visual Quality
- Recreation