

APPENDIX E2

SSWD’s PROPOSED MEASURES

Provided below are the operations and management activities that South Sutter Water District (SSWD or Licensee) proposes to undertake as measures of the new license for the Project for the purpose of protecting or mitigating impacts that would otherwise result from SSWD’s Proposed Project as described in this Application for a New License, or for the purpose of enhancing resources that could be affected by the proposed Project (PM&E measures).

For the purpose of this appendix, SSWD has assumed that the Federal Energy Regulatory Commission’s (FERC) requirements regarding inspections of Project facilities (e.g., annual FERC inspections, Part 12 Dam Safety Inspections, and Environmental and Public Use Inspections) and other similar general FERC requirements (e.g., requirement for Emergency Action Plans) will apply to SSWD’s Proposed Project if FERC issues a new license. SSWD also has assumed the specific requirements included in related approvals, such as dam certificates issued by the California Division of Safety of Dams (DSOD) for Project dams within DSOD’s jurisdiction and appropriative water rights licensed by the California State Water Resources Control Board (SWRCB) for power generation will not change under a new license. Therefore, SSWD has not included proposed measures related to these activities in this Application for New License.

In addition, for the purpose of this appendix, SSWD has assumed that FERC will include in the new license FERC’s *37 Terms and Conditions of License for Constructed Major Project Affecting Navigable Waters and Lands of the United States* (Form L-5 Standard Articles).¹ Therefore, SSWD has not included proposed measures that would otherwise be addressed by FERC’s Form L-5 Standard Articles.

SSWD and Relicensing Participants have reached agreement, or are working towards reaching agreement, on a number of PM&E measures. The status of each measure proposed by SSWD in its Application for New License is described in Table E2-1, for which a detailed PM&E measure is included in this appendix.

Table E2-1. PM&E measures on which SSWD and Relicensing Participants reached agreement, indicated by an “X” in the respective cell.

PM&E Measure Included in Appendix E2 of this Exhibit E	SSWD and Relicensing Participants that Support SSWD’s Proposed PM&E Measure ¹					Explanation
	NMFS	USFWS	NPS	CDFW	FWN	
WR1. Implement Water Year Types		X		X	X	SSWD and the indicated parties have reached agreement on this measure. For the purpose of this FLA, this agreed-on measure is included as SSWD’s Proposed Measure in SSWD’s FLA

¹ L-5: *Constructed Major Project Affecting Navigable Waters and Lands of the United States*, 12 F.P.C. 1329 (October 23, 1953), 17 F.P.C. 110 (January 13, 1957), 38 F.P.C. 203 (July 26, 1967), 54 F.P.C. 1832 (October 31, 1975).

Table E2-1. (continued)

PM&E Measure Included in Appendix E2 of this Exhibit E	SSWD and Relicensing Participants that Support SSWD's Proposed PM&E Measure ¹					Explanation
	NMFS	USFWS	NPS	CDFW	FWN	
AR1. Implement Minimum Streamflows		X		X	X	SSWD and the indicated parties have reached agreement on this measure. For the purpose of this FLA, this agreed-on measure is included as SSWD's Proposed Measure in SSWD's FLA. As a separate measure, agencies would like SSWD to provide flow data on a real-time basis. SSWD and the agencies will continue to discuss that potential measure.
AR2. Implement Fall and Spring Pulse Flows		X		X	X	SSWD and the indicated parties have reached agreement on this measure. For the purpose of this FLA, this agreed-on measure is included as SSWD's Proposed Measure in SSWD's FLA
AR3. Implement Ramping Rates						SSWD and the indicated parties have had very productive discussions regarding this measure and are continuing to collaborate on this measure. SSWD and the parties anticipate reaching agreement and filing with FERC a consensus measure by the end of September 2019, at which time SSWD will amend its FLA to include the agreed-on measure. SSWD has included in this FLA its measure as proposed at this time.
TR1. Implement a Bald Eagle Management Plan ²						SSWD and the indicated parties have had very productive discussions regarding this measure and are continuing to collaborate on this measure. SSWD and the parties anticipate reaching agreement and filing with FERC a consensus measure by the end of September 2019, at which time SSWD will amend its FLA to include the agreed-on measure. SSWD has included in this FLA its measure as proposed at this time.
TR2. Implement Blue Heron Rookery Management		X		X	X	SSWD and the indicated parties have reached agreement on this measure. For the purpose of this FLA, this agreed-on measure is included as SSWD's Proposed Measure in SSWD's FLA.
RR1. Implement Recreation Facilities Plan ²						SSWD and relicensing participants are in substantial agreement on this measure. An outstanding item is the period when SSRA would be open. SSWD and the parties are continuing to collaborate on this issue and will file with FERC a consensus measure by the end of September 2019, at which time SSWD will amend its FLA to include the agreed-upon measure. SSWD has included in this FLA its proposed measure at this time.

Table E2-1. (continued)

PM&E Measure Included in Appendix E2 of this Exhibit E	SSWD and Relicensing Participants that Support SSWD's Proposed PM&E Measure ¹					Explanation
	NMFS	USFWS	NPS	CDFW	FWN	
CR1. Implement Historic Properties Management Plan ³						Under Section 106 of the NHPA, SSWD has consulted with SHPO and interested Tribes regarding this measure. Refer to the HPMP for a discussion of consultation. NMFS, USFWS, CDFW, NPS and FWN defer to these agencies on this measure. SSWD has submitted the final HPMP to SHPO for concurrence and will file the final HPMP with FERC when SHPO concurrence is received. SSWD has included in this FLA the HPMP that was submitted to SHPO for concurrence.
<i>Subtotal</i>	0	4	0	4	4	--
Total			12			--

¹ The SWRCB participated in the collaboration meetings, but stated that it cannot agree to or take a position on the merits of any PM&E measures at this time.

² This plan is included in Appendix E2 of Exhibit E of SSWD's Application for New License, and is considered Public information.

³ This plan is included in Volume III of SSWD's Application for New License, and is considered Privileged information.

SSWD and the Relicensing Participants that agree to a PM&E measure as shown in Table E2-1 agreed to take the following actions for that measure assuming there is no additional information discovered or changes in the Project that affect the measure:

- SSWD will include the agreed-upon PM&E measure unchanged in its FLA, and SSWD will propose no other measure in the FLA related to the issue.
- USFWS and CDFW will include the PM&E measure unchanged and will propose no other measures related to the issue in their respective FPA Section 10(j) and/or FPA Section 10(a) recommendations.
- FWN will propose the PM&E measure and no other measures related to the issue in its comments on SSWD's FLA.

SSWD and Relicensing Participants have scheduled four meetings in July and August 2019 to resolve differences and come to agreement on Measures AR3 (Ramping Rates), TR1 (Bald Eagle Plan) and RR1 (Recreation Plan) in Table E2-1. By the end of September 2019, SSWD plans to file with FERC these final agreed-on measures.

1.0 SSWD Proposed Measure WR1, Implement Water Year Types²

Beginning within 90 days of license issuance, Licensee shall in each year determine the applicable water year type described in this measure. Licensee shall use these determinations to implement articles and measures of the license that are dependent on water year type.

² As shown in Table E2-1, SSWD, USFWS, CDFW and FWN are in agreement with this measure.

October 15 through March 14 Period

The water year type for the October 15 through March 14 period shall be determined by the previous April 1 through September 30 cumulative usable inflow into Camp Far West Reservoir, as specified in Table 1 of this measure. The water year type for the October 15 through March 14 period shall be calculated once each year by October 15, and shall apply to that entire period each year.

Table 1. Water Year types for the Camp Far West Hydroelectric Project from October 15 through March 14.

Water Year Type	Cumulative Usable Inflow into Camp Far West Reservoir for the Previous April 1 through September 30 Period (acre-feet)
Wet	Greater than or equal to 80,000
Above Normal	41,000 to 79,999
Below Normal	36,000 to 40,999
Dry	20,000 to 35,999
Critically Dry	Less than 20,000

The Camp Far West Reservoir cumulative usable inflow in Table 1 shall be calculated as the sum of the daily canal diversions from April 1 through September 30 at South Sutter Water District’s Main Canal and the Camp Far West Irrigation District’s North and South canals, in cubic feet per second and multiplied by 1.98347 to convert to acre-feet, minus the difference between Camp Far West Reservoir storage on April 1 and September 30. Camp Far West storage on both dates will be limited to a maximum value of 93,737 acre-feet or the maximum storage possible before uncontrolled spill through the dam spillway.

South Sutter Water District’s Main Canal diversions and the Camp Far West Irrigation District’s North and South canal diversions are to be taken as the average daily flow in cubic feet per second, and storage in Camp Far West Reservoir is determined by converting the published daily reservoir elevation data to storage in acre-feet using the Camp Far West Reservoir area-capacity curve available in Exhibit B of the Licensee’s Application For New License. Hourly diversion data for the Main Canal, South Canal, and North Canal diversions will be reported on a weekly basis and will be publicly available by January 1, 2020, in compliance with the California State Water Resources Control Board’s Surface Water Measurement and Reporting Regulations (California Code of Regulations, Title 23, Chapters 2.7 and 2.8). The gages used to provide data for these calculations shall be:

- Main Canal Diversion
- South Canal Diversion
- North Canal Diversion
- Camp Far West Storage

March 15 through October 14 Period

The water year type for the period from March 15 through October 14, shall be based on the California Department of Water Resources (DWR) 50 percent exceedance forecast of the water year unimpaired runoff in the Yuba River near Smartsville plus Deer Creek, as set forth in DWR’s Bulletin 120 entitled “Water Year Conditions in California,” as specified in Table 2 of this measure. DWR’s forecast published in March and April shall apply from the 15th day of that month through the 14th day of the next month. From May 15 through October 14, the water year type shall be based on DWR’s forecast published in May.

Table 2. Water Year types for the Camp Far West Hydroelectric Project from March 15 through October 14.

Water Year Type	DWR Forecast of Total Water Year Unimpaired Runoff in the Yuba River near Smartsville plus Deer Creek ¹ (acre-feet)
Wet	Greater than 3,240,000
Above Normal	2,191,000 to 3,240,000
Below Normal	1,461,000 to 2,190,000
Dry	901,000 to 1,460,000
Critically Dry	Equal to or less than 900,000

¹ DWR currently rounds Bulletin 120 forecasts to the nearest 1,000 acre-feet, and rounded values to the nearest 1,000 acre-feet will be used.

2.0 SSWD Proposed Measure AR1, Implement Minimum Streamflows³

Licensee shall, within 30 days of issuance of the new license, meet the minimum streamflow requirements for the Bear River downstream of Camp Far West Dam and Powerhouse that are shown in Table 1 of this measure.

Table 1. Minimum Streamflows in cubic feet per second (cfs) for the Camp Far West Hydroelectric Project by period and by Water Year Type, which is defined in Licensee’s Proposed Measure WR1.

Period	Water Year Type				
	Wet Water Year (cfs)	Above Normal Water Year (cfs)	Below Normal Water Year (cfs)	Dry Water Year (cfs)	Critically Dry Water Year (cfs)
Oct 1 – Oct 14	10	10	10	10	10
Oct 15 – Oct 31	50	25	25	10	10
Nov 1 – Nov 14	100	60	30	20	10
Nov 15 – Feb 28 (29)	125	60	30	20	15
Mar 1 – Mar 31	60	40	30	20	15
Apr 1 – Apr 30	40	25	25	20	15
May 1 – May 14	40	25	25	15	15
May 15 – May 31	25	25	20	10	10
Jun 1 – June 14	25	25	15	10	10
June 15 – June 30	20	20	10	10	10
July 1 – Sep 30	10	10	10	10	10

Minimum streamflows of 30 cfs or less shall be measured at the fish release valve off South Sutter Water District’s Main Canal (USGS Gage 11423800, Bear River Fish Release below Camp Far West Reservoir, near Wheatland, CA). Minimum streamflows greater than 30 cfs shall be

³ As shown in Table E2-1, SSWD, USFWS, CDFW and FWN are in agreement with this measure.

measured as the difference between the Camp Far West Dam release (defined as the sum of the flows through the Camp Far West Powerhouse, Camp Far West Dam Low-Level Outlet, and Camp Far West Dam Spillway) less diversions (defined as the sum of South Sutter Water District Main Canal and Camp Far West Irrigation District's North and South canals). Flow through the Camp Far West Powerhouse and Camp Far West Dam Low-Level Outlet shall be measured every 15 minutes, while flow over the Camp Far West Dam Spillway shall be measured once daily. Diversions at the South Sutter Water District's Main Canal and the Camp Far West Irrigation District's North and South canals shall be measured on an hourly basis. Average daily Camp Far West Dam release and average daily diversions shall be used to measure the average daily minimum streamflows greater than 30 cfs.

Minimum streamflows may be temporarily modified as follows:

- For short periods and upon consultation with and approval by the USFWS, NMFS, CDFW and SWRCB. Licensee shall provide notification to the Commission prior to implementing such modifications.
- Due to an emergency. An emergency is defined as an outage due to an event that is reasonably out of the control of Licensee and requires Licensee to take immediate action, either unilaterally or under instruction of law enforcement, emergency services, California ISO or other regulatory agency staff, including actions to prevent the imminent loss of human life or damage to property. An emergency may include, but is not limited to: natural events such as landslides, storms, or wildfires; vandalism; malfunction or failure of transmission lines or Project works; or other public safety incidents. If Licensee temporarily modifies the requirements of this measure, Licensee shall make all reasonable efforts to promptly resume performance of the requirements, and shall notify the USFWS, NMFS, CDFW and SWRCB within 48 hours of the start of the modification. Licensee shall provide notification to the Commission as soon as possible but no later than 10 days after such incident.

Where a facility must be modified or constructed to allow compliance with the required minimum streamflow, including flow measurement facilities, then, except as otherwise provided, Licensee shall submit applications for permits to modify or construct the facility as soon as reasonably practicable but no later than within the first 2 years of the new license term, and Licensee will complete the work as soon as reasonably practicable but no later than within 2 years after receiving all required permits and approvals for the work. During the period before facility modifications or construction are completed, Licensee shall make a good faith effort to provide the specified minimum streamflows within the reasonable capabilities of the existing facilities.

Table 2. Spring (i.e., between April 11 and May 10) pulse flow in cubic feet per second (cfs) for the Camp Far West Hydroelectric Project by period and by Water Year Type.

March 15 – October 14 Water Year Type as Defined in SSWD’s Proposed Measure WR1					
Below Normal Water Year		Dry Water Year		Critically Dry Water Year	
Period (day)	Flow (cfs)	Period (day)	Flow (cfs)	Period (day)	Flow (cfs)
Day 1	≥ 200	Day 1	≥ 200	Day 1	≥ 200
Day 2	≥ 200	Day 2	≥ 200	Day 2	≥ 200
Day 3	≥ 150	Day 3	≥ 150	Day 3	≥ 150
Day 4	≥ 100	Day 4	≥ 100	Day 4	≥ 100
Day 5	≥ 75	Day 5	≥ 75	Day 5	≥ 75
Day 6	≥ 50	Day 6	≥ 50	Day 6	≥ 50

The fall and spring pulse flows shall be measured as described in SSWD’s Proposed Measure AR1, Minimum Streamflows. The fall and spring pulse flows are not additive to the minimum streamflows required in SSWD’s Proposed Measure AR1, Minimum Streamflows.

Fall and spring pulse flows may be temporarily modified as follows:

- For short periods and upon consultation with and approval by the USFWS, NMFS, CDFW and SWRCB. Licensee shall provide notification to the Commission prior to implementing such modifications.
- Due to an emergency. An emergency is defined as an outage due to an event that is reasonably out of the control of Licensee and requires Licensee to take immediate action, either unilaterally or under instruction of law enforcement, emergency services, California ISO or other regulatory agency staff, including actions to prevent the imminent loss of human life or damage to property. An emergency may include, but is not limited to: natural events such as landslides, storms, or wildfires; vandalism; malfunction or failure of transmission lines or Project works; or other public safety incidents. If Licensee temporarily modifies the requirements of this measure, Licensee shall make all reasonable efforts to promptly resume performance of the requirements, and shall notify the USFWS, NMFS, CDFW and SWRCB within 48 hours of the start of the modification. Licensee shall provide notification to the Commission as soon as possible but no later than 10 days after such incident.

Where a facility must be modified or constructed to allow compliance with the required pulse flow, including flow measurement facilities, then, except as otherwise provided, Licensee shall submit applications for permits to modify or construct the facility as soon as reasonably practicable but no later than within the first 2 years of the new license term, and Licensee will complete the work as soon as reasonably practicable but no later than within 2 years after receiving all required permits and approvals for the work. During the period before facility modifications or construction are completed, Licensee shall make a good faith effort to provide the specified pulse flow within the reasonable capabilities of the existing facilities.

Springtime Installation of Flashboards at Non-Project Diversion Dam (April or May)

During the spring installation of flashboards on the non-Project diversion dam downstream of the Project (i.e., installation includes the activities of drawing down the non-Project diversion dam pool, installing the flashboards, and refilling the non-Project diversion dam pool to initiate diversions), Licensee shall make a good faith effort to not reduce the combined release from the Camp Far West Powerhouse and/or the Camp Far West Low-Level Outlet at a rate greater than the target ramping rates in Table 2. The ramping rate values shown in Table 2 are made in recognition of the physical limitations and challenges that the operator of the non-Project diversion dam encounters when manually installing flashboards with the existing infrastructure at the non-Project diversion dam. If in the future the operator of the non-Project diversion dam automates initiation of diversions at the non-Project diversion dam such that the physical limitation and challenges no longer occur, Licensee shall adhere to the target ramping rates shown in Table 1 of this condition.

Table 2. Target ramping rates in cubic feet per second (cfs) for springtime flashboard installation at the non-Project diversion dam (April or May)

Average Hourly Release From Combination of Camp Far West Dam Low-Level Outlet and Powerhouse for Previous Hour (cfs)	Target Maximum Reduction in Release From Combination of Camp Far West Dam Low-Level Outlet and Powerhouse for That Hour (unlimited steps per day) (cfs)
725 – 600	200
599 – 450	150
449 – 330	120
329 – 230	100
229 – 150	80
149 – 100	50
99 – 60	40
59 – 30	30
29 – 10	20

For the purpose of this condition, the ramping rate targets shall be measured as described in SSWD’s Proposed Measure AR1.

This condition is subject to temporary modification if required for repairs to the dam or associated equipment, by equipment malfunction, as directed by law enforcement authorities, or in emergencies. An emergency is defined as an outage due to an event that is reasonably out of the control of Licensee and requires Licensee to take immediate action, either unilaterally or under instruction of law enforcement, emergency services, or other regulatory agency staff, including actions to prevent or reduce the imminent loss of human life or damage to property. An emergency may include, but is not limited to: natural events such as landslides, storms, or wildfires; vandalism; malfunction or failure of Project works; or other public safety incidents. If Licensee temporarily modifies the requirements of this condition, Licensee shall make all reasonable efforts to promptly resume performance of the requirements and shall notify USFWS, NMFS, CDFW and SWRCB within 48 hours of the modification. Licensee shall provide notification to the Commission as soon as possible but no later than 10 days after such incident.

5.0 SSWD Proposed Measure TR1, Implement Bald Eagle Management Plan⁶

The Licensee shall, within 1 year of license issuance, implement the Bald Eagle Management Plan included in Attachment 1 of this Appendix E2.

6.0 SSWD Proposed Measure TR3, Implement Great Blue Heron Rookery Management⁷

The Licensee shall implement a Limited Operating Period (LOP) from March 15 to July 31 within a 500-foot buffer of the great blue heron (*Ardea herodias*) rookery located presently at the South Shore Recreation Area and other blue heron rookeries that may be identified on Camp Far West Reservoir. Land barriers and appropriate signage shall be placed to designate the buffer zone during the LOP from the edge of the outside nest.

7.0 SSWD Proposed Measure RR1, Implement Recreation Facilities Plan⁸

The Licensee shall, within 1 year of license issuance, implement the Recreation Facilities Plan included in Attachment 2 of this Appendix E2.

8.0 SSWD Proposed Measure CR1, Implement Historic Properties Management Plan⁹

The Licensee shall, within 1 year of license issuance, implement the Historic Properties Management Plan included in Volume III of Licensee's June 2019 Application for New License.

⁶ As indicated in Table E2-1, SSWD, USFWS, CDFW, and FWN have had very productive discussions regarding this measure and are continuing to collaborate on this measure. The parties are in general agreement regarding limited operating periods and buffers around nests, and are discussing monitoring. SSWD and the parties anticipate reaching agreement and filing with FERC a consensus measure by the end of September 2019, at which time SSWD will amend its FLA to include the agreed-on measure. SSWD has included in this FLA its measure as proposed at this time.

⁷ As shown in Table E2-1, SSWD, USFWS, CDFW and FWN are in agreement with this measure.

⁸ As indicated in Table E2-1, SSWD and relicensing participants are in substantial agreement on this measure. The outstanding item is expanding the period when SSRA would be open. SSWD and the parties anticipate reaching agreement and filing with FERC a consensus measure by the end of September 2019, at which time SSWD will amend its FLA to include the agreed-on measure. SSWD has included in this FLA its measure as proposed at this time.

⁹ Under Section 106 of the NHPA, SSWD has consulted with SHPO and interested Tribes regarding this measure. SSWD has submitted the final HPMP to SHPO for concurrence and will file the final HPMP with FERC when SHPO concurrence is received. SSWD has included in this FLA the HPMP that was submitted to SHPO for concurrence.

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APPENDIX E2

Attachment 1

Bald Eagle Management Plan

APPENDIX E2

Attachment 2

Recreation Facilities Plan

