

# License Implementation Plan

## Sacramento Municipal Utility District

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Hydro License Implementation • January 2015  
Upper American River Project  
FERC Project No. 2101

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## 1.0 Introduction

On July 23, 2014, FERC released an Order Issuing New License (License) to SMUD for the UARP. SMUD accepted the License by letter dated August 22<sup>nd</sup>, 2014. For implementation purposes, the effective date of the License is July 23, 2014.

The new UARP License includes a large number of articles and conditions which require SMUD to implement a broad range of measures intended to protect, mitigate, or enhance natural and social resources affected by the UARP. Appendix A of the License contains mandatory conditions issued by the California State Water Resources Control Board (SWRCB) in its Water Quality Certification for the UARP relicensing, pursuant to the Clean Water Act, Section 401. Appendix B of the License contains mandatory conditions filed by the U.S. Forest Service (USFS) under Section 4(e) of the Federal Power Act. In general, the conditions contained in Appendices A and B of the new License are the same as the measures contained in the 2007 Relicensing Settlement Agreement for the UARP and Chili Bar Project (Settlement Agreement), and reference is made in this Implementation Plan to the multiple documents (and sections) containing the same requirement.

Pursuant to Condition 63 of the Appendix B of the License, SMUD must prepare an Implementation Plan that sets forth a schedule for accomplishing all measures of the License. The Consultation Group referenced in Condition 63 consists of all signatories to the Settlement Agreement, the SWRCB, the Regional Water Quality Control Board, and El Dorado County. As described in Section 4.12.1 of the Settlement Agreement, participation in the Consultation Group is voluntary, depends on the interests of the participant, and the input provided to SMUD is generally advisory, excluding authorities of resource agencies or as specified in a given condition or article of the License. Attachment 1 contains the relevant License Condition.

Nearly all measures contained in the License include one or more allotted timeframes in which particular actions or tasks must commence or be completed, and many require a plan be developed, reviewed, and approved within a specified timeframe prior to implementation. This Implementation Plan sets forth a schedule for accomplishing the intent of those measures.

Figure 1 provides a high-level perspective of the UARP License implementation schedule for the first 20 years of the License. The primary purpose of this figure is to provide a general understanding of the tasks to be completed initially as well as on an annual basis. From a workload perspective, significant activity occurs during the first five years for SMUD and the resource agencies, as well as other Consultation Group participants depending on their interests. Within this period: (1) all ecological monitoring programs will have been planned and started; (2) all management plans will have been developed and implemented; and (3) more than a dozen recreation facilities will have been designed and upgraded or reconstructed. UARP facility modifications which are needed to implement new operational conditions, such as minimum and recreational streamflow releases, will also be completed within the first five years of the new

License. After Year 5, SMUD and the Consultation Group will continue to be engaged in overseeing a variety of regular activities such as ecological and recreation monitoring and participating in an annual meeting to review, among other things, all monitoring efforts and recreation facility upgrades completed during the prior year, presently underway, and planned to be undertaken in the current year. In accordance with the Settlement Agreement, SMUD will provide a summary report to the Consultation Group prior to the annual meeting covering the activities above. All Consultation Group meetings will be open to the public.

Sections 2 through 8 of this document review the time-sensitive requirements, or milestones, of the various types of measures required of the new License. In most instances, SMUD is committed to achieving the milestones through a process of internal planning and development of operating procedures. This applies, for example, to requirements that new minimum instream flows be implemented within 3 months of the License issuance. In other cases, achieving implementation milestones is dependent on preparing a plan first, as in the case of ecological monitoring or recreation management. These plans will be developed using a process that relies heavily on consultation with the resource agencies and other Consultation Group participants.

SMUD's approach to the initial consultation for plans will be to present a framework, outline, or draft plan document as a starting point for discussions. Whenever possible this document will be released prior to the discussion (i.e. two weeks). The level of detail included in the framework/outline will correspond with the degree of complexity of the measure and will attempt to provide enough information to allow the Consultation Group to provide comments during the discussion. To the extent possible, SMUD will conduct the initial consultation with the required participants via monthly License Implementation meetings, currently scheduled for the fourth Thursday of each month for the first two years following License issuance. Bundling of multiple plans into a single meeting will be performed whenever possible to increase consultation efficiency. Additionally, topics will be grouped to allow flexibility for participants to attend those sessions where they have consultation responsibilities. SMUD will make a good faith effort to provide an agenda for each meeting two weeks prior to the date. Information will also be distributed electronically, as necessary, via e-mail and SharePoint-facilitated document sharing. Word or Excel files will be available upon request.

Based on this initial consultation process, a draft Plan will be prepared and distributed electronically to the Consultation Group for a 30-day review and comment period. SMUD will consider requests from Consultation Group participants to extend the review and comment period provided that such an extension would not adversely affect SMUD's ability to timely file the draft plan with FERC and/or the approving Regulatory Party. Comments received by SMUD will be addressed and a final draft Plan will be submitted to appropriate parties for formal approval. Written approval from specified agencies will conclude Plan development. The approved Plan, including documentation of consultation and approval, will then be filed with FERC for review and final approval. SMUD will implement the Plan following FERC's approval. See Figure 2 for sequence of process.

## 2.0 Reservoir Releases and Levels

New License measures associated with reservoir releases and water levels are summarized in Table 2.0-1. Each measure includes a specific due date by which by SMUD must implement one or more of the following: begin making stream releases at dams (i.e., minimum, pulse and recreation), provide information, consult with various members of the Consultation Group, or begin meeting or exceeding reservoir levels. Some measures in Table 2.0-1 include required prerequisites (e.g., perform a sensitive site investigation before releasing pulse flows below Loon Lake Dam), while others allow additional time to achieve full compliance if facility modification is needed to achieve the measure.

<b>Table 2.0-1. Compliance schedule for License measures associated with operations and management of water in UARP reservoir.</b>				
<b>Measure Requirements</b>	<b>Compliance Schedule Relative to License Issuance</b>	<b>Condition or Article References</b>		
		<b>USFS</b>	<b>SWRCB</b>	<b>Settlement Agreement</b>
Prepare notice of final water year type	Annually, within 30 days of May California DWR Bulletin 120 American River forecast	27, 50	1	1-1, 1-24
Release minimum streamflows at all reservoirs	As early as practicable within 3 months <sup>1</sup> of License issuance, then continuously throughout License term.	27	1	1-1
Release additional block of water from Junction and Camino reservoirs	In Wet water years following License issuance, SMUD will make additional water releases in July-September if necessary for temperature control purposes.	27	1.1	1-1
Release pulse flows at Rubicon, Loon Lake, and Ice House reservoirs	As early as practicable within 3 months of License issuance, then periodically throughout License term during Wet, AN, and BN water year types <sup>2</sup> .	28	2	1-2
Achieve ramping rates during high releases at Loon Lake, Ice House, Camino, Junction and Slab Creek reservoirs	As early as practicable within 3 months of License issuance	29	3	1-3
Coordinate operations with Chili Bar Hydroelectric Project	Within 120 days of License issuance develop a plan, once approved by FERC coordination will occur continuously throughout License term <sup>3</sup> .	30	25	1-4, 2-3
Meet or exceed summer reservoir level thresholds at Union Valley, Ice House, and Look Lake reservoirs	As early as practicable within 6 months of License issuance, then annually throughout License term.	49	5	1-23
Manage reservoir levels at Rubicon, Buck Island,	As early as practicable within 6 months of License issuance, then	49	5	1-23

**Table 2.0-1. Compliance schedule for License measures associated with operations and management of water in UARP reservoir.**

Measure Requirements	Compliance Schedule Relative to License Issuance	Condition or Article References		
		USFS	SWRCB	Settlement Agreement
Gerle, Junction, Brush and Slab reservoirs	annually throughout License term.			
Release recreation streamflows at Ice House and Slab Creek reservoirs	As early as practicable within 3 months of License issuance, then periodically throughout License term.	50	4	1-24
Consult on preliminary recreation flow schedule	Annually, no later than February 15	50	4	1-24

<sup>1</sup> Unless effectively extended by needed facility modification (see Section 7).

<sup>2</sup> At Rubicon Reservoir, SMUD will consult with resource agencies prior to commencing pulse flows in any given year.

<sup>3</sup> Filed jointly by SMUD – PG&E to the Deputy Director within 90 days after issuance of the UARP and Chili Bar Project Licenses, or if the Licenses are issued separately, the latter of the two.

SMUD is committed to implementation of all measures in Table 2.0-1 on or before the required due dates. Implementation of pulse flows in Gerle Creek below Loon Lake Dam will not occur until after SMUD has completed the Gerle Creek Sensitive Site Investigation, as is consistent with the requirements of the new License (see Settlement Agreement Articles 1-2 and 1-5.7). SMUD is required to complete the Gerle Creek Sensitive Site Investigation within two years of License issuance.



### 3.0 Ecological Monitoring

The new FERC License requires SMUD to perform a variety of ecological resource monitoring studies focusing on important aquatic and terrestrial species which have the potential to be affected by the operational standards of the License. As shown in Figure 1, ecological monitoring will be conducted throughout the first 20 years at varying frequencies (e.g., annually, once every 5 years), depending on the resource. These monitoring programs include annual reporting and review by various resource agencies. Within the first two years, SMUD is required to prepare monitoring Plans for each ecological resource. Table 3.0-1 provides a summary of License measures which require the development of a monitoring plan and subsequent review of monitoring results. As demonstrated in Table 3.0-1, SMUD is required to prepare ecological monitoring plans for 15 resources, all of which will have been submitted to FERC within 28 months of the date of License issuance.

<b>Table 3.0-1. Ecological monitoring plans and review required in new UARP License.</b>				
<b>Ecological resource</b>	<b>FERC Submittal Date Relative to License Issuance</b>	<b>Condition or Article References</b>		
		<b>USFS</b>	<b>SWRCB</b>	<b>Settlement Agreement</b>
In situ water quality monitoring plan	Within 10 months	31.10	8.J	1-5.10
Water chemistry monitoring plan	Within 10 months	31.10	8.J	1-5.10
Bacteria monitoring plan	Within 10 months	31.10	8.J	1-5.10
Metals bioaccumulation monitoring plan	Within 10 months	31.10	8.J	1-5.10
Water temperature (in reaches) monitoring plan	Within one year	31.9	8.I	1-5.9
Algae species monitoring plan	Within 16 months	31.10	8.F	1-5.6
Foothill yellow-legged frog + monitoring plan	Within 16 months	31.3	8.C,D	1-5.3&4
Bear/human interaction monitoring plan	Within 10 months	31.13	N/A	1-5.13
Bald eagle monitoring plan	Within 10 months	31.13	8.L	1-5.13
Geomorphology monitoring plan	Within 28 months	31.8	8.G, 8.H	1-5.8
Benthic macro-invertebrate monitoring plan	Within 28 months	31.2	8.B	1-5.2
Gerle Creek fish passage plan	Within one year	Article 402, FERC	N/A	N/A
Hardhead monitoring plan	Within one year	31.1	8.A	1-5.1
Rainbow and brown trout monitoring plan	Within 28 months	31.1	8.A	1-5.1
Mountain yellow-legged frog monitoring plan	Within 28 months	31.3	8.C,D	1-5.3
Riparian vegetation monitoring plan	Within 28 months	31.5	8.E	1-5.5
Review of ecological conditions meeting	Annually, by April 1	40	13	1-14
Ecological monitoring report	Annually, before June 30*	40	13	1-5

<b>Table 3.0-1. Ecological monitoring plans and review required in new UARP License.</b>				
<b>Ecological resource</b>	<b>FERC Submittal Date Relative to License Issuance</b>	<b>Condition or Article References</b>		
		<b>USFS</b>	<b>SWRCB</b>	<b>Settlement Agreement</b>
Coordinated Operations Effectiveness Review	Annually	32	25	1-6.11
Forest Service consultation on protection measures	Annually, between February 15 and April 15	3	N/A	3-3
Report of deer & other wildlife in Gerle Canal	Annually, by April 1	38	N/A	1-12.1
Ecological resources adaptive management program	Within 90 days	32	9	1-6

\*This is the due date to FERC. These reports are required to be made available to the Agencies two weeks before the annual review of ecological conditions.

SMUD will implement the measures identified in Table 3.0-1 on or before the required due dates contained in the License, subject to any subsequent FERC orders. A schedule of steps which will ensure compliance is provided in Figure 2. Several monitoring plans must be submitted to FERC for approval within ten months of License issuance. SMUD will work on this group of plans first to ensure timely submittal to FERC, and then move to plans that must be submitted to FERC within the one and two-year time limits.

SMUD will follow the same steps described in Section 1 in developing each monitoring Plan: (1) initially consult with resource agencies and other Consultation Group members regarding plan framework, outline document, or draft plan; (2) prepare and submit draft Plan for Consultation Group review; (3) allow for 30 days of review and comment by Consultation Group; (4) if plan comments are extensive and/or complex and require further discussion, meet with interested Consultation Group participants to resolve comments. SMUD will consider requests from Consultation Group participants for further discussion, provided that such an event would not adversely affect SMUD’s ability to timely file the draft plan with FERC and/or the approving Regulatory Party (4) modify the draft plan accordingly; (5) submit for 90 day review and approval from the resource agencies, including the Deputy Director of the SWRCB; and (6) submit to FERC for review and final approval. These steps are displayed graphically in Figure 2.

SMUD began work on time-sensitive elements of certain monitoring requirements before License issuance. The water temperature monitoring measure, for example, requires SMUD to install recorders within six months of License issuance in the two reaches related to “block of water” adaptive management releases: (1) Silver Creek above Camino Reservoir; and (2) Silver Creek immediately upstream of the South Fork American River (SFAR). Similarly, real-time water temperature monitoring in the Ice House Dam Reach (SF Silver Creek) and the Slab Creek Dam Reach (SF American River) is required to be in place prior to the implementation of recreation and pulse flows from either dam. However, recreation and/or pulse flows are required to be implemented at both dams “as early as practicable within 3 months of License issuance”. To achieve these temperature monitoring needs early in the License, SMUD

began construction activities at these four sites prior to the release of the License. As a result, real-time water temperature monitoring exists at each site as of the issuance date of the License.

#### 4.0 Facilities and Resources Management

The License requires SMUD to develop a number of Management Plans for project facilities and natural resources. This covers a variety of diverse activities such as road maintenance, fish stocking, and vegetation management. In general, these measures address environmental or social aspects associated with how SMUD operates and maintains the UARP (Table 4.0-1).

<b>Table 4.0-1. New License measures associated with facilities and resources.</b>				
<b>Measure Synopsis</b>	<b>FERC Submittal Date Relative to License Issuance</b>	<b>Condition or Article References</b>		
		<b>USFS</b>	<b>SWRCB</b>	<b>Settlement Agreement</b>
Prepare a Project Implementation Plan	Within six months	63	N/A	1-37
Prepare a UARP/Chili Bar coordinated operations plan <sup>1</sup>	Within four months	30	25	1-4
Streamflow and Reservoir Level Gaging Plan	Within one year	36	6	1-10
Prepare a flow and reservoir level information to the public plan	Within one year	51	7	1-25.1
Prepare reservoir level report	Within 5 years, and every 5 years thereafter	49	5.J	1-23
Prepare a Heritage Properties Management Plan	To the Forest Service within six months	31	N/A	1-28
Provide an operations and maintenance plan	Annually, two weeks before ecological conditions meeting	40	24	1-14
Provide for fish stocking	Annually	52	16	1-26
Ensure large woody debris continues downstream	Annually	35	10	1-9
Review large woody debris in Ice House reach	Annually	50	N/A	1-24
Prepare a hazardous substances plan	Within one year	11	24	3-11
Prepare a Gerle Creek sensitive site investigation and mitigation monitoring plan	Within 10 months	31, 28	8.G	1-5, 1-2
Prepare a Gerle Creek channel stability plan	Within 28 months	33	8.G	1-7
Prepare a Robbs Peak Powerhouse entrainment plan	Within 10 months	31, 32	8.K	1-5.12, 1-6.5
Maintain Gerle Creek Reservoir elevation for fish passage	August through October each year	34	5.D	1-8
Prepare Block of Water releases plan	Within 16 months	27, 31	1.I	1-1, 1-5
Prepare a canal and penstock	Within one year	37	11	1-11

<b>Table 4.0-1. New License measures associated with facilities and resources.</b>				
<b>Measure Synopsis</b>	<b>FERC Submittal Date Relative to License Issuance</b>	<b>Condition or Article References</b>		
		<b>USFS</b>	<b>SWRCB</b>	<b>Settlement Agreement</b>
release points plan				
Prepare a transportation system management plan	Within one year	56	15	1-30.1
Prepare a trails system management plan	Within one year	57	N/A	1-31.1
Prepare a facility management plan	Within one year	58	N/A	1-32
Prepare a fire prevention and response plan	Within one year	60	N/A	1-34
Prepare an avian protection plan	Within one year	38	N/A	1-12
Review the special status species list	Annually, beginning the first full calendar year	38	N/A	1-12
Provide a snow plowing plan to the Forest Service for review	Annually, before the snow plow season	56	N/A	1-30
Participate in road and sign survey with the Forest Service	As needed, but at least annually	20	N/A	3-20
Prepare an invasive weed management plan	Within two years	39	26	1-13
Prepare a vegetation management plan	Within two years	39, 59	26	1-13, 1-33
Prepare UARP roads 5-year maintenance plan	Every 5 years	56	N/A	1-30
Prepare UARP trails 5-year maintenance plan	Every 5 years	57	N/A	1-31
Prepare UARP facilities 5-year maintenance plan	Every 5 years	58	N/A	1-32

<sup>1</sup> Filed jointly by SMUD – PG&E to the Deputy Director within 90 days after issuance of the UARP and Chili Bar Project Licenses, or if the Licenses are issued separately, the latter of the two.

SMUD will implement the measures identified in Table 4.0-1 on or before the required due dates contained in the License, subject to any subsequent FERC orders. For measures requiring the development of a Plan, SMUD will ensure compliance with required time periods by following a series of steps similar to those planned for the ecological monitoring measures (see Figure 2 and the process for plan development described above under Ecological Monitoring). Fifteen of the Facilities and Resources Management measures require the development of Plans, thirteen of which must be submitted to FERC within one year of License issuance. SMUD will work on these thirteen plans first and will follow the same process discussed in Section 1. SMUD will commence consultation on the two plans with a two year timeframe nine months after License issuance.

Two measures focus on Gerle Creek geomorphology, i.e., the Gerle Creek Sensitive Site Investigation and Mitigation Monitoring Plan and the Gerle Creek Channel Stability Plan. SMUD will develop the Plans for these two measures concurrently to achieve efficiencies for Plan development as well as agency review. Both Plans will be drafted,

reviewed and approved by the resource agencies and other members of the Consultation Group using the process for plan development as described above under Ecological Monitoring, and filed with FERC for approval within two years of License issuance.

## 5.0 Recreation Management

Table 5.0-1 identifies the measures contained in the License associated with UARP-related recreation planning, periodic review, and annual payments to the USFS to provide for recreation facility operation and maintenance, as well as management of visitors at the reservoirs.

<b>Table 5.0-1. New License measures associated with recreation planning and support.</b>				
<b>Measure Synopsis</b>	<b>FERC Submittal Date Relative to License Issuance</b>	<b>Condition or Article References</b>		
		<b>USFS</b>	<b>SWRCB</b>	<b>Settlement Agreement</b>
Forest Service recreation payments	Annually, beginning in first full year	47	N/A	1-20
UARP Project boundary survey Exhibit G	90 days	44	N/A	1-18
Prepare Slab Creek Takeout Access and Parking Plan	Within eighteen months	50	N/A	50
Prepare Recreation Implementation Plan	Within six months	41	14	1-15
Union Valley Reservoir boating Management Plan	Within 2 years	45	N/A	1-19
Union Valley Reservoir Management Plan	Within 2 years	45	N/A	1-19
Ice House Reservoir Management Plan	Within 2 years	45	N/A	1-19
Gerle Creek Reservoir Management Plan	Within 2 years	45	N/A	1-19
Loon Lake Reservoir management plan	Within 2 years	45	N/A	1-19
Slab Creek Reservoir Forebay Road access	Within 2 years	45	N/A	1-19
Slab Creek Reservoir near Dam Road Access	Within 2 years	45	N/A	1-19
WW Boating use monitoring in Slab and Ice House dam reaches	Annually on release days, for at least 5 years	50	4	1-24
Ice House Dam Reach woody debris review	Annually	50.2	N/A	1-24
Bear-proof food lockers	Within 2 years	45	N/A	1-19
Slab Creek Dam Reach WW Boating Management	Within 2 years	50	N/A	1-24
Streamflow and Reservoir Level Information Plan and publish via website	Within 1 year	50	7	1-25

<b>Table 5.0-1. New License measures associated with recreation planning and support.</b>				
<b>Measure Synopsis</b>	<b>FERC Submittal Date Relative to License Issuance</b>	<b>Condition or Article References</b>		
		<b>USFS</b>	<b>SWRCB</b>	<b>Settlement Agreement</b>
Interpretive and Educational plan and brochure/map	Within 2 years	51	N/A	1-25.2 & 3
Meet with the Forest Service and review all recreation facilities to identify heavy maintenance, rehabilitation, and reconstruction work needed.	Every six years	44	N/A	1-18
Conduct recreation survey and prepare report	Within 6 years, and every 6 years thereafter	42	N/A	1-16
South Fork Silver Creek reach below Ice House Reservoir Dam Recreation Plan	Within 5 years	50	4.B	1-24.2
Prepare Ice House reach boating use report	Within 2 years, and every 5 years thereafter*	50	4.B	1-24
Review visual aspects of UARP facilities with FS	Every 5 years	53	N/A	1-27
Provide an individual for liaison with the Forest Service	In effect	43	N/A	1-17

\* Ice House reach boating use report was to be due to FERC within 5 years in the Settlement Agreement. SMUD has petitioned FERC for limited rehearing in several matters, of which this is one. SMUD has asked for this report to be due to FERC within four years of License issuance.

SMUD will implement the measures identified in Table 1.5-1 on or before the required due dates contained in the License, subject to any subsequent FERC orders.

USFS Condition 44 requires SMUD to adjust the UARP FERC project boundary for any existing project-related recreation facilities which currently are not within the project boundary, and revise the Exhibit G drawings accordingly. The revised Exhibit G drawings are due to FERC within 90 days of License issuance.

## 6.0 Recreation Facility Upgrades and New Construction

Condition 45 of the USFS 4(e) conditions requires that SMUD upgrade essentially all existing recreation facilities associated with the UARP and construct new facilities over the course of a 20-year period. Under this condition, SMUD is responsible for the following items requiring USFS approval: (1) survey and planning; (2) design; (3) environmental analysis and permitting; (4) construction, and (5) preparation of as-built drawings. All upgraded facilities will become the property of the Forest Service upon completion, final inspection, and acceptance by the USFS.

As shown in Figure 1, SMUD will perform the License-required recreation facility upgrades over the course of the first 20 years of the 50-year License term. Of the 55

upgrade measures, nearly half are required to be completed in the first eight years of the new License. Four upgrade projects must be completed in the first two years, and 12 more by the fifth year.

To achieve the facility upgrade schedule highlighted in Figure 1, SMUD will follow a similar set of steps for each project that consist of planning, design, and construction. Planning and design are expected to occur over the first two years of each project. SMUD has retained the services to engineering/environmental contractors via multi-year professional services contracts. These contractors will be used by SMUD to develop plans and design each new/existing facility.

The design phase will involve nine primary activities as outlined in Table 6.0-1. Dates shown in Table 6.0-01 represent a typical schedule for design and implementation of projects. Some projects may have a compressed time schedule due to the dates they are required to be completed under the License.

While most of these activities will involve coordination with Forest Service staff, three require USFS approval prior to moving to the next phase of the project. Once the 95% design is complete, SMUD will hire a separate contractor for the construction of each project. In most cases, construction will be limited to Summer/Fall and will transpire within one season, or perhaps two, depending on the magnitude of the project.

<b>Table 6.0-1. New License measures associated with recreation planning and support.</b>	
<b>Start Date</b>	<b>Activity</b>
Aug- Year 1	Select Environmental/Engineering/Design Contractor
Sep- Year 1	Define the Project (USFS consultation)
Oct- Year 1	Initiate Easement and/or Real Property Acquisitions (if necessary)
Nov- Year 1	Base Map Preparation (USFS consultation)
Dec- Year 1	Conceptual Design (USFS consultation)
Apr- Year 2	Environmental Assessment (USFS consultation and approval)
Jul- Year 2	60% Design (USFS consultation)
Aug- Year 2	Permitting (USFS consultation)
Dec- Year 2	Prepare 95% (Final) Design (USFS review and approval)
May- Year 3	Complete Easement and/or Real Property Acquisitions (if necessary)
Aug- Year 3	Select Construction Contractor
Dec- Year 3	Contractor Preparation (USFS consultation)
May- Year 4	Contractors Performs Construction
Oct- Year 4	Project Closeout (USFS review and approval)

Figure 2 provides a schedule of recreation facility upgrade activities for upgrades required within or beginning planning within the first two years. These projects are the

Union Valley Reservoir Bike Trail, reconstructing the Rubicon Hiking Trail, constructing toilets in the Loon Lake area, and improving Buck Island Reservoir Hiking Trails.

## 7.0 Non-Recreation Facility Upgrades

Under the terms of the UARP License, SMUD is required to release minimum flows from all project dams which are higher than those required under the previous License. These higher flows necessitate upgrades to outlet facilities and/or compliance monitoring facilities such as gages and weirs. In anticipation of the License, SMUD began a program of facility upgrades in 2010, which has resulted in four completed facility modification projects as of the issuance of the License. With the exception of Slab Creek Dam, all remaining outlet/gaging facility modifications will be completed by 2015 (Table 7.0-1).

Table 7.0-1. UARP Dam Facility modifications to required to implement minimum flows of new License.		
Dam	Required Facility Modification	Planned Completion Date
Rubicon	<ul style="list-style-type: none"> <li>Replace globe valve with a 36" knife gate valve</li> <li>Install new reservoir level gaging equipment</li> <li>Install <i>in situ</i> probes in the discharge pipe and new stage/temperature sensors in outlet pool on Rubicon River</li> </ul>	Scheduled for completion in Summer 2015
Buck Island	<ul style="list-style-type: none"> <li>Remove existing weir and construct new weir in Little Rubicon River</li> <li>Install new stage/temperature sensor in existing conduit and stilling well.</li> </ul>	Scheduled for completion in Summer 2015
Loon Lake	<ul style="list-style-type: none"> <li>Construct new weir and gage at existing site in Gerle Creek</li> </ul>	Completed in 2012
Gerle Creek	<ul style="list-style-type: none"> <li>Replace existing globe valve with a gate valve on outlet pipe</li> <li>Install <i>in situ</i> probes in the discharge pipe to gage flow</li> </ul>	Completed in 2012
Robbs Peak	<ul style="list-style-type: none"> <li>Install new 36" valve at the end of low level outlet</li> <li>Construct a new weir and gage in South Fork Rubicon River below the dam</li> </ul>	Weir scheduled for completion in 2015. Outlet valve scheduled for completion in 2016.
Ice House	<ul style="list-style-type: none"> <li>Remove existing weir and construct new weir in South Fork Silver Creek</li> </ul>	Completed in 2012
Junction	<ul style="list-style-type: none"> <li>install new staff plate for discharge gaging</li> </ul>	Completed in 2011
Camino	<ul style="list-style-type: none"> <li>Construct new weir (with low flow box) and gage at existing site in Silver Creek</li> </ul>	Scheduled for completion in 2016
Brush Creek	<ul style="list-style-type: none"> <li>No facility modifications required</li> </ul>	
Slab Creek	<ul style="list-style-type: none"> <li>See discussion below</li> </ul>	

The existing outlet facilities at Slab Creek Dam are incapable of releasing the minimum and boating flows contained in the License. Accordingly, SMUD plans to construct a new powerhouse at White Rock Tunnel Adit No. 3, located approximately ¼-mile downstream of the dam, that is fully capable of releasing all minimum release



requirements at Slab Creek Dam. SMUD will also construct a large boating release valve adjacent to the new powerhouse which is capable of releasing the required boating flows. Because these modifications require a formal License Amendment, SMUD was required to file a Non-Capacity License Amendment Application with FERC. The License requires SMUD complete facility modifications within 3 years of License issuance, or 2017.

To accomplish this goal within the specified time limit, SMUD started a formal License Amendment process well in advance of the expected License issuance date. During 2010-2011, for example, SMUD performed a number of technical studies associated with construction and operation of the new facilities, which were followed by release of an Initial Consultation Document (ICD) for the New Slab Creek Powerhouse Project in October 2011. In 2012, SMUD received comments from resource agencies and other parties on the propose project. In April 2013, SMUD submitted a draft License Amendment Application to resource agencies, non-governmental agencies, representatives of the local boating community, and interested residents. Based on comments received, SMUD modified the document and filed the Final License Amendment Application with FERC on August 27<sup>th</sup>, 2014. Assuming one year for FERC NEPA review and licensing accompanied by parallel final design activities, the project would be ready for construction in 2015. The first 2 years of construction, 2016 and 2017, will focus on site preparation and construction of the boating release valve. This valve will have the capacity to release all required minimum and boating flows, thereby ensuring compliance with the License requirement to switch to higher minimum releases at the end of year 3. Once the valve is complete, SMUD will commence construction of the powerhouse. During the period between License issuance and initial operation of the boating flow valve, SMUD will provide the License-required minimum flows within the capabilities of the existing facilities. Boating flows at Slab Creek Dam will occur as required via creation of controlled spills from Slab Creek Reservoir over the dam.

## **8.0 Iowa Hill Pumped-storage Development**

SMUD's schedule for the Iowa Hill Pumped-storage Project includes progressive phases, with the timing of each phase contingent to a degree on the outcome of previous activities. The first phase consists of a comprehensive investigation of the geological characteristics of the mountain where underground facilities will be constructed. This geotechnical investigation will include: (1) drilling and coring at three surface locations during the winter of 2013/2014, which has been completed; (2) additional drilling and coring from within a drift inside the mountain during the winter of 2014/2015 and (3) drilling and coring at various locations along the proposed transmission line tie-in, the upper reservoir berm, the inlet/outlet location in Slab Creek Reservoir, and the utility shaft. The timing of this third stage is as yet undetermined, as the timing/receipt of the USFS Special Use Authorization and SPI easements needed to begin this work will impact the schedule dramatically. Using the information derived from these primary geotechnical investigations, SMUD will refine project cost, scope and schedule during the period 2015-2017. This information will assist the SMUD Board of Directors in future decision-making regarding the construction phase of the project. If

the decision is made to construct the project, the most likely construction time frame will be 2017 through 2023. Because different phases of planning and construction trigger the development of authorizations and plans that must be developed in consultation with interested parties, SMUD will update the Consultation Group during all phases of the schedule.

As work on the Iowa Hill Project schedule proceeds, SMUD will, in a timely manner, secure necessary permits and develop required resource protection plans prior to engaging in ground-disturbing activities. Primary among these will be the need to obtain a special-use authorization from the USFS to perform project-related activities on National Forest System lands. In addition, before initiating construction activities, SMUD will obtain necessary authorizations subject to the National Pollutant Discharge Elimination System, Waste Discharge Requirements, Section 404 Permit, Section 401 Certification, and Streambed Alteration Agreement. In securing these authorizations, SMUD will provide to appropriate state and federal regulatory agencies the refined design plans and construction schedule as they are developed during the 2015-2017 time period. SMUD will work closely with appropriate resource agencies during project design. This will include, for example, gaining SWRCB approval of the Slab Creek Reservoir inlet/outlet structure design that minimizes fish entrainment and turbidity and USFS consultation on the upper reservoir berm design that minimizes impacts to the visual quality of the area.

SMUD will also develop a number of plans to protect resources during the construction phase of the project. These plans will cover resources such as Forest Service road use, noise, fire, transportation through local roads, spoils disposal, recreation access to Slab Creek Reservoir, water quality, and groundwater. Also, prior to initiating construction, SMUD will develop a plan to mitigate the loss of wildlife habitat associated with the project. All these plans will be developed in consultation with appropriate parties during the 2015-2017 timeframe. Development of these plans will follow the process for plan development described above under Ecological Monitoring.

Monitoring of important resources will also occur prior to, during, and after project construction. SMUD will monitor hardhead populations in Slab Creek Reservoir two years prior to and two years after the commencement of project operation. Similarly, monitoring of groundwater will occur during tunnel construction at springs and creeks and for five years after construction is complete. Water temperature monitoring between May and September will occur in Slab Creek Reservoir after construction to assess effects of project operation on edge water temperatures used by hardhead. Monitoring of water temperatures in the South Fork American River below Mosquito Bridge will also occur after construction during the months of June, July, and August. Each of these monitoring Plans will be developed in consultation with resource agencies and other interested parties of the Consultation Group using the process for plan development as described above under Ecological Monitoring prior to the onset of project operations.

**Attachment 1***Condition 63 – Implementation Schedule*

1. *The Licensee shall prepare a Project implementation plan that sets forth a schedule for implementing the articles in this License.*
2. *The Licensee shall develop a schedule for filing the plans and related documents set forth in License articles 1-1 through 1-50. The schedule shall be filed for FERC approval no later than six months from the date of License issuance.*
3. *The Licensee shall include, with the proposed schedule, documentation of consultation with the Consultation Group provided under Section 4.12.1 of the Relicensing Settlement Agreement, copies of comments and recommendations on the proposed schedule after it has been prepared and specific descriptions of how the Consultation Group's comments are accommodated by the proposed schedule. The Licensee shall allow a minimum of 30 days for the Consultation Group to comment and to make recommendations before filing the plan with FERC. If the Licensee does not adopt a recommendation, the filing shall include the Licensee's reasons, based on project-specific information.*
4. *Upon FERC approval, the Licensee shall implement the schedule, including any changes required by the FERC.*









**Figure 2.** Schedule of UARP License Implementation Activities Within First 24 Months of License Issuance

Measure	Year due after License	USFS 4(e)	SWRCB	License Condition(s)	2014					2015												2016												2017							
					Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan							
Union Valley Res. Management (2)	2	45	n/a	45						USFS consultation and field review							CG	draft plan			review		final	FERC approval																	
Ice House Res. Management (2)	2	45	n/a	45						USFS consultation and field review							CG	draft plan			review		final	FERC approval																	
Gerle Creek Res. Management (2)	2	45	n/a	45						USFS consultation and field review							CG	draft plan			review		final	FERC approval																	
Loon Lake Res. Management (2)	2	45	n/a	45						USFS consultation and field review							CG	draft plan			review		final	FERC approval																	
Slab Cr. Res. Forebay Rd. Access Plan (2)	2	45	n/a	45						USFS consultation and field review							CG	draft plan			review		final	FERC approval																	
Slab Cr. Res. Near Dam Access Plan (2)	2	45	n/a	45						USFS consultation and field review							CG	draft plan			review		final	FERC approval																	
WW Boating Use Monitoring Plan (0.5)	1	50	4	50		CG	final		FERC approval		implement >>>																														
Ice House Reach Woody Debris Review	2	50	n/a	50						review											review																				
Bear-proof Food Lockers (2)	2	45	n/a	50														CG	draft plan		review		final	FERC approval		implement >>>															
Slab Creek Reach WWB Mgmt. (2)	2	50	n/a	50														CG	draft plan		review		final	FERC approval		implem															
Interp. & Ed. Plan and Brochure/Map (2)	2	51	n/a	51													CG	draft plan		review		final	FERC approval		implement >>>																
Access and Parking Plan for White Rock	1.5	50	n/a	50													CG	draft plan		review		final	FERC approval		implement >>>																
<b>Recreation Facility Upgrades</b>																																									
Expand UV Bike Trail - Tells to YJ CG (2)	2	45	n/a	45		con. design		env. assessment		60% design		App.		95% design		App.	site prep.						construct			approve as-built															
Reconstruct Rubicon and Pleasant CG Hiking Trail (2)	2	45	n/a	45		con. design		env. assessment		60% design		App.		95% design		App.							construct			approve as-built															
Improve Buck Island Hiking Trail (4)	4	45	n/a	45		con. design		env. assessment		60% design		App.		95% design		App.							construct			approve as-built															
Replace toilets at Pleasant Campground (2)	2	45	n/a	45		con. design		env. assessment		60% design		App.		95% design		App.							construct			approve as-built															
Construct toilets at Ellis Staging and Buck Island (2, 4)	2,4	45	n/a	45						con. design	env. assessment	60% design		App.	95% design	App.							construct			approve as-built															
Reconstruct Sunset CG (5)	5	45	n/a	45																early planning																					
Expand North Shore RV CG (5)	5	45	n/a	45																early planning																					
West Point Boat Launch	5	45	n/a	45																early planning																					
Yellow Jacket Boat Launch	5	45	n/a	45																early planning																					
Ice House & UV Roads Surfacing, Parking , and access (5)	5	56	n/a	56						USFS consultation and field review					planning	con.	conceptual design				app.	acquisition and environmental assessment																			
<b>Non-Recreation Facility Upgrades</b>																																									
Modify Rubicon Dam Valve		27	1.A	27	Scheduled for 2015																																				
Reconstruct Weir - Buck Island		27	1.B	27	Scheduled for 2015																																				
Reconstruct Loon Lake Dam Weir		27	1.C	27	Completed in 2012																																				
Replace Valve at Gerle Dam		27	1.D	27	Completed in 2012																																				
Construct New Weir below Robbs Dam		27	1.E	27	Scheduled for 2015																																				
Modify Robbs outlet valve		27	1.E	27	Scheduled for 2016																																				
Reconstruct Ice House Dam Weir		27	1.F	27	Completed in 2012																																				
Construct new weir below Camino Dam		27	1.H	27	Scheduled for 2016																																				
Amendment for New Slab Powerhouse	0.25	27	1.K	27; 50	Submit Final License Amendment Application						FERC performs NEPA, consults, and issues license order												CEQA	implement >>>																	
Visual - Loon Passive Reflector (2)		53	n/a	53	Completed in 2014																																				
Install Temp. Gages - 4 w/ Telemetry		31	8.1	31	Completed in 2013																																				
Visual - New Fence - Robbs & Rubicon (2)	2	53	n/a	53											planning		design	install																							
Visual - Painting at Four Sites (2)	2	53	n/a	53							planning		paint																												
<b>Iowa Hill</b>																																									
Obtain a Special Use Permit		64	n/a			USFS consultation					Approval																														
Develop and Implement Hardhead Monitoring Plan		66	21													CG	draft plan		review		final	FERC approval																			
Develop and Implement Edgewater Temperature Monitoring Plan		66	21													CG	draft plan		review		final	FERC approval																			
Develop and Implement Wildlife Land Mitigation Plan		67	n/a	409									Agency Consultation					CG	draft plan		review		final	FERC approval																	
Prepare and Implement a Groundwater Monitoring Plan		69	18																USFS Consultation					CG	draft plan		review														
Develop and File Visual Quality Specifications and Simulations		70																					CG	draft plan		review															
Develop and Implement a Construction Noise Management Plan		74																					CG	draft plan		review															
Develop and Implement a Recreation Access Plan		75	22																				CG	draft plan		review															



151 FERC ¶ 62,117  
UNITED STATES OF AMERICA  
FEDERAL ENERGY REGULATORY COMMISSION

Sacramento Municipal Utility District

Project No. 2101-084

ORDER APPROVING IMPLEMENTATION SCHEDULE PLAN

(Issued May 18, 2015)

1. On January 26, 2015, Sacramento Municipal Utility District (SMUD), licensee for the Upper American River Hydroelectric Project (project), FERC No. 2101, filed an Implementation Schedule Plan (plan) for the project license requirements. The plan was filed for Commission approval pursuant to U.S. Forest Service (Forest Service) Section 4(e) Condition 63 and Section 4.12.1 of the project relicensing Settlement Agreement.<sup>1</sup>
2. The project currently consists of seven developments located on the Rubicon River, Silver Creek, and South Fork American River in El Dorado and Sacramento Counties in central California.

BACKGROUND

3. Forest Service 4(e) Condition 63 requires that within 6 months of license issuance, the licensee must develop a project implementation plan that sets forth a schedule for implementing the articles requirements in the license. The plan is required to be developed in consultation with the Consultation Group provided under Section 4.12.1 of the Relicensing Settlement Agreement.<sup>2</sup>

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<sup>1</sup> *See* Order Issuing New License, issued July 23, 2014 (148 FERC ¶ 62,070).

<sup>2</sup> The Consultation Group consists of the signatories to the Settlement Agreement, including: American Whitewater, American River Recreation Association, Bureau of Land Management, California Parks and Recreation, California Department of Fish and Wildlife, California Outdoors, California Sportfishing Protection Alliance, Camp Lotus, Foothill Conservancy, Forest Service, Friends of the River, U.S. Fish and Wildlife Service, Interior, U.S. National Park Service, Pacific Gas & Electric Company, Rich Platt, Hilde Schweitzer, Theresa Simsiman, and the licensee.

## THE LICENSEE'S PLAN

4. The plan includes a figure that provides a high-level perspective of the license implementation schedule for the first 20 years of the license. The primary purpose of this figure is to provide a general understanding of the tasks to be completed initially as well as annually. From a workload perspective, SMUD says that significant activity occurs during the first five years for SMUD and the resource agencies, as well as other Consultation Group participants depending on their interests. After the 5<sup>th</sup> year, SMUD and the Consultation Group will continue to be engaged in overseeing a variety of regular activities such as ecological and recreation monitoring and participating in an annual meeting to review, among other things, all monitoring efforts and recreation facility upgrades completed during the prior year, presently underway, and planned to be undertaken in the current year. In accordance with the Settlement Agreement, SMUD will provide a summary report to the Consultation Group prior to the annual meeting covering the activities above. All Consultation Group meetings will be open to the public. SMUD says it is committed to implementation of all requirements on or before their required due dates.

5. The plan outlines the license requirements in 7 groups as follows: (1) Reservoir Releases and Levels, (2) Ecological Monitoring, (3) Facilities and Resources Management, (4) Recreation Management, (5) Recreation Facility Upgrades and New Construction, (6) Non-Recreation Facility Upgrades, and (7) Iowa Hill Pumped-storage Development.

6. These groups include a review of the time-sensitive requirements, or milestones, of the various types of measures required of the new license. SMUD is committed to achieving the milestones through a process of internal planning and development of operating procedures. In some cases, achieving implementation milestones is dependent on preparing a plan first, which will be developed using a process that relies heavily on consultation with the resource agencies and other Consultation Group participants.

7. SMUD's approach to the initial consultation for plans will be to present a framework, outline, or draft plan as a starting point for discussions. Based on this initial consultation process, a draft plan will be prepared and distributed electronically to the Consultation Group for a 30-day review and comment period. SMUD will consider requests from Consultation Group participants to extend the review and comment period provided that such an extension would not adversely affect SMUD's ability to timely file the draft plan with the Commission and/or any other approving Regulatory Party. Comments received by SMUD will be addressed and a final draft Plan will be submitted to appropriate parties for formal approval. Written approval from specified agencies will conclude plan development. The approved plan, including documentation of consultation and approval, will then be filed with the Commission for review and final approval. SMUD will implement the Plan following the Commission's approval.

## CONSULTATION

8. The proposed plan was prepared in consultation with agencies and other interested parties as specified in Forest Service 4(e) Condition 63. By a group email, dated September 24, 2014, the licensee notified the Consultation Group, agencies, and other interested parties, that the draft Implementation Plan for the Upper American River Project was posted for their review at a web link that was provided. The 30-day review and comment period ended on October 24, 2014. The Forest Service provided 33 comments to the draft plan. State Water Resources Control Board provided 28 comments to the draft plan and California Department of Fish and Wildlife provided 10 comments to the draft plan. Each of these comments is detailed in a spreadsheet included within the plan. The U.S. Fish and Wildlife Service said in a November 24, 2014 email that they support the comments submitted by the Forest Service. No other comments on the draft plan were received from other interested parties or agencies.

9. Most comments addressed minor corrections or the need to clarify language. The licensee detailed their response to each comment, with most resulting in changes that were incorporated into the body of the final text of the plan. The licensee's response to each comment appeared adequate and there are no outstanding issues.

## DISCUSSION

10. The plan meets the requirements of Forest Service 4(e) Condition 63 and details how SMUD will meet its license requirements in a timely fashion. The licensee's Implementation Schedule Plan details the process of preparing each of the plans required under the license, from consultation with the Consultation Group, to providing the plan for the Commission's final approval. We find the plan fully addresses the requirements of Forest Service 4(e) Condition 63 and provides SMUD's commitment to meeting and implementing the license requirements on time. The proposed plan should be approved.

### The Director orders:

(A) The Sacramento Municipal Utility District's Implementation Schedule Plan filed on January 26, 2015, pursuant to Forest Service 4(e) Condition 63, is approved.

Project No. 2101-084

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(B) This order constitutes final agency action. Any party may file a request for rehearing of this order within 30 days from the date of its issuance, as provided in section 313(a) of the FPA, 16 U.S.C. § 8251 (2012), and the Commission's regulations at 18 C.F.R. § 385.713 (2014). The filing of a request for rehearing does not operate as a stay of the effective date of this order, or of any other date specified in this order. The licensee's failure to file a request for rehearing shall constitute acceptance of this order.

Steve Hocking, Chief  
Environmental and Project Review Branch  
Division of Hydropower  
Administration and Compliance

Document Content(s)

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