



STATE OF CALIFORNIA
CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY
STATE WATER RESOURCES CONTROL BOARD

DIVISION OF WATER RIGHTS

RIGHT TO DIVERT AND USE WATER

APPLICATION 8042

PERMIT 5555

AMENDED LICENSE 10191

Licensee City of Los Angeles
or Right Holder: Department of Water and Power
111 North Hope Street, Room 1468
Los Angeles, CA 90051-0100

The State Water Resources Control Board (State Water Board) authorizes the diversion and use of water by the Licensee in accordance with the limitations and conditions herein SUBJECT TO PRIOR RIGHTS. The priority of this right dates from **July 27, 1934**. This right is issued in accordance with the State Water Board delegation of authority to the Deputy Director for Water Rights (Resolution 2012-0029) and the Deputy Director for Water Rights redelegation of authority dated October 19, 2017. This right supersedes any previously issued right on **Application 8042**. The Licensee has made proof, to the satisfaction of the State Water Board, of the quantities of water put to beneficial use during the authorized development schedule.

The Deputy Director for Water Rights finds that: (a) the change will not operate to the injury of any lawful user of water; (b) good cause has been shown for the change; (c) the petition does not constitute the initiation of a new right; and (d) the State Water Board has made the required findings pursuant to the California Environmental Quality Act (CEQA.)

The State Water Board has complied with its independent obligation to consider the effect of the proposed change on public trust resources and to protect those resources where feasible. (*National Audubon Society v. Superior Court* (1983) 33 Cal.3d 419 [189 Cal.Rptr. 346, 658 P.2d 709].)

Licensee is hereby granted a right to divert and use water as follows:

1. Sources of water: **(1) Lee Vining Creek, (2) Walker Creek, (3) Parker Creek, and (4) Rush Creek**

tributary to: **(2)(3) Rush Creek thence (1)(4) Mono Lake**

within the County of **Mono**

2a. Location of points of diversion and points of diversion to offshore storage:

By California Coordinate System of 1983 in Zone 3	40-acre subdivision of public land survey	Section	Township	Range	Base and Meridian
(1) <u>Lee Vining Creek Intake</u> North 2,166,170 feet and East 6,955,467 feet	NE¹/₄ of NW¹/₄	20	1N	26E	MD
(2) <u>Walker Creek Intake</u> North 2,151,097 feet and East 6,959,074 feet	NW¹/₄ of NW¹/₄	4	1S	26E	MD
(3) <u>Parker Creek Intake</u> North 2,144,397 feet and East 6,959,974 feet	SW¹/₄ of NW¹/₄	9	1S	26E	MD

2b. Location of point of diversion, point of rediversion, point of diversion to offshore storage, and place of storage:

By California Coordinate System of 1983 in Zone 3	40-acre subdivision of public land survey	Section	Township	Range	Base and Meridian
(4) <u>Grant Lake Dam and Reservoir</u> North 2,139,397 feet and East 6,964,774 feet	NW¹/₄ of NW¹/₄	15	1S	26E	MD

2c. Location of point of rediversion:

By California Coordinate System of 1983 in Zone 4	40-acre subdivision of public land survey	Section	Township	Range	Base and Meridian
<u>Los Angeles Aqueduct Intake</u> North 2,239,370 feet and East 6,792,373 feet	NE¹/₄ of SW¹/₄	24	11S	34E	MD

2d. Location of points of diversion and places of storage:

By California Coordinate System of 1983 in Zone 3	40-acre subdivision of public land survey	Section	Township	Range	Base and Meridian
<u>Long Valley Dam and Reservoir</u> (AKA Lake Crowley): North 2,041,510 feet and East 7,081,322 feet	SE¹/₄ of NW¹/₄	19	4S	30E	MD
<u>Tinemaha Dam and Reservoir:</u> North 2,268,144 feet and East 6,787,165 feet	NE¹/₄ of NW¹/₄	26	10S	34E	MD
<u>Haiwee Reservoir Complex:</u> North 1,935,256 feet and East 6,870,739 feet	SW¹/₄ of NE¹/₄	2	21S	37E	MD

3. Purpose of use	4. Place of use				
	40-acre subdivision of public land survey	Section	Township	Range	Base and Meridian
Municipal	Within the City of Los Angeles Department of Water and Power's service area as shown on map filed with the State Water Board.				

The place of use is shown on map filed with the State Water Board.

The following acronyms and abbreviations are used in this amended license:

amsl	above mean sea level
AF	acre-feet
AFA	acre-feet per annum
AOP	Annual Operations Plan
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
cfs	cubic feet per second
DSOD	California Department of Water Resources, Division of Safety of Dams
Deputy Director	Deputy Director for the Division of Water Rights
Division	Division of Water Rights
GLOMP	Grant Lake Operations and Management Plan
GLR	Grant Lake Reservoir
Grant Outlet	Grant Lake Outlet
LADWP	Los Angeles Department of Water and Power
MAT	Mono Basin Monitoring Administration Team
MBOP	Mono Basin Operations Plan
MGORD	Mono Gate One Return Ditch
Monitoring Directors	Stream Monitoring Team, Limnology Director, and Waterfowl Director
Parties	California Department of Fish and Wildlife, Mono Lake Committee, and California Trout
RCTE	riffle crest thalweg elevation
SCE	Southern California Edison
SEFs	Stream Ecosystem Flows
SMT	Stream Monitoring Team
State Water Board	California State Water Resources Control Board
Synthesis Report	“Mono Basin Stream Restoration and Monitoring Program: Synthesis of Instream Flow Recommendations to the State Water Resources Control Board and Los Angeles Department of Water and Power” (April 30, 2010)
USFS	United States Forest Service

5. The amount of water to which this right is entitled and hereby confirmed is limited to the amount actually beneficially used for the stated purposes and shall not exceed (a) **189 cfs by direct diversion**, to be diverted from January 1 to December 31 of each year; and (b) **89,200 AFA by storage**, to be collected in Grant Lake, Long Valley, Tinemaha, and Haiwee reservoirs from January 1 to December 31 of each year as follows:

- (1) Lee Vining Creek – **83 cfs and 32,000 AFA**
- (2) Walker Creek – **6 cfs and 4,700 AFA**
- (3) Parker Creek – **11.9 cfs and 5,800 AFA**
- (4) Rush Creek – **88.1 cfs and 46,700 AFA**

(0000005E)

6. The maximum withdrawal from storage from Grant Lake, Long Valley, Tinemaha, and Haiwee reservoirs in any one year shall not exceed a total of **69,100 AF**.
(0000005D)
7. The total amount of water to be taken from the sources (direct diversion plus collection to storage) shall not exceed **167,800 AF** per calendar year of January 1 to December 31. The total amount to be placed to beneficial use (direct diversion plus withdrawal from storage) shall not exceed **147,700 AF** per calendar year of January 1 to December 31.
(0000005E)
8. The maximum rate of diversion to offstream storage shall not exceed 365 cfs.
(0000005J)

9. Mono Lake Level

For protection of Mono Lake and restoration of waterfowl habitat, diversion under this amended license is subject to the limitations specified below.

For purposes of determining the applicable water diversion criteria, the water level of Mono Lake shall be measured on April 1 of each year and the limitation on water diversions shall apply for the one-year period of April 1 through March 31 of the succeeding year, except as otherwise specified below. The water level shall be measured at the LADWP gage near Lee Vining Creek or such other gage as is approved by the Deputy Director.

Water diversion criteria applicable until the water level of Mono Lake reaches 6,391 feet above mean sea level (amsl):

- a. Licensee shall not export any water from the Mono Basin any time that the water level in Mono Lake is below 6,377 feet amsl, or any time that the water level of Mono Lake is projected to fall below 6,377 feet amsl at any time during the runoff year of April 1 through March 31.
- b. If the water level of Mono Lake is expected to remain at or above 6,377 feet amsl throughout the runoff year of April 1 through March 31 of the succeeding year based on Licensee's final May 1 runoff projections and any subsequent runoff projections, then Licensee may divert up to 4,500 AF of water per year under the terms of this amended license.
- c. If the water level of Mono Lake is at or above 6,380 feet amsl and below 6,391 feet amsl, then Licensee may divert up to 16,000 AF of water per year under the terms of this amended license.

- d. In the event that the water level of Mono Lake has not reached an elevation of 6,391 feet amsl by September 28, 2020, the State Water Board will hold a hearing to consider the condition of the lake and the surrounding area, and will determine if any further revisions to this amended license are appropriate.

Water diversion criteria applicable after the water level of Mono Lake reaches 6,391 feet amsl:

- a. Once the water level of Mono Lake has reached an elevation of 6,391 feet amsl, no diversions shall be allowed any time that the water level falls below 6,388 feet amsl.
- b. Once the water level of 6,391 feet amsl has been reached and the lake level has fallen below 6,391 feet amsl, diversions by Licensee shall be limited to 10,000 AF per year provided that the water level is at or above 6,388 feet amsl and less than 6,391 feet amsl.
- c. When the water level of Mono Lake is at or above 6,391 feet amsl on April 1, Licensee may divert all available water in excess of the amount needed to maintain the SEFs, up to the amounts otherwise authorized under this amended license.

10. Discharge from East Portal into Owens River

Licensee's combined rate of diversion through the Mono Craters Tunnel under all bases of right shall be regulated so that the sum of discharge from East Portal and the natural flow in the Owens River at East Portal do not exceed **250 cfs** as measured directly downstream of the East Portal discharge. Licensee shall make releases to the upper Owens River at a relatively stable rate consistent with operational limitations and water availability. This standard shall be incorporated into GLOMP and MBOP.

11. Stream Ecosystem Flows (SEFs)

For the protection of streams and fisheries, Licensee shall provide the Stream Ecosystem Flows (SEFs) stated in Tables 1 and 2 (located at end of license) and in item (c) of this condition. The flows shall remain instream and shall not be diverted for any other use. These flows are minimum flows unless otherwise specified.

- a. General
 - (1) Adaptive Management. Flow requirements in Tables 1 and 2 are subject to adaptive management as provided for in "Stream Monitoring Program" condition 20.

- (2) Maximum Ramping Rate. The maximum ramping rates specified in Tables 1 and 2 apply to flow changes which occur as a result of Licensee's operation of its points of diversion. These rates shall be calculated based on the percentage of change in flow from the average flow over the preceding 24 hours. Licensee shall operate its points of diversion to not exceed maximum ramping rates that are specified in Tables 1 and 2, or any more restrictive rates in the Mono Basin Operations Plan (MBOP) (see "Mono Basin Operations Plan" condition 14.).
 - (3) Target Ramping Rate. Licensee shall also operate to achieve the target ramping rates specified in Tables 1 and 2 to the extent feasible. The MBOP shall specify daily flow adjustments and other reasonable efforts Licensee will make to achieve or attempt to achieve the target ramping rate within each hydrograph component. Variance from a target ramping rate does not constitute a violation of this amended license or require Licensee to notify the Division pursuant to the "Operations Records and Reporting" condition 18, item (b).
 - (4) Water Year-Types. Water year-types are listed in the "Water Year Classifications" condition 16.
- b. Rush Creek. Licensee shall provide flows from GLR as specified in Table 1. Prior to completion of the modification of GLR Facilities to include an outlet (hereafter Grant Outlet), Licensee shall provide such flows to the extent possible using the existing capacity of the Mono Gate One Return Ditch and reservoir spills.
- (1) Stored Water. When necessary in order to meet these flow requirements, Licensee shall release water from storage at GLR if storage exceeds 11,500 AF. Licensee shall reduce otherwise allowable export to maintain at least 11,500 AF of storage. If GLR is at or below 11,500 AF of storage, Licensee shall bypass inflow or provide the flow requirement, whichever is less.
 - (2) Storage Rules and Criteria. In order to provide cold water flow in Rush Creek, Licensee shall comply with the following rules and criteria for GLR storage. Licensee shall reduce otherwise allowable export to meet these criteria; it shall not reduce flows below the required SEFs.
 - i. In all years, Licensee shall store at least 20,000 AF of water in GLR from July 1 through September 30.

- ii. If GLR is below 25,000 AF of storage on July 1 in a Dry or Dry/Normal I water year, Licensee shall convey all available water diverted from Lee Vining Creek through the Five Siphons Bypass to augment cold water flow in Rush Creek. Diversions through Five Siphons Bypass for this purpose shall not continue past October 1. There shall be no augmentation to Rush Creek in other water year-types or for other purposes.
 - iii. From October 1 to March 31, Licensee shall avoid, to the extent feasible, reservoir spills and flows as specified in the MBOP that would mobilize the streambed of Rush Creek.
- c. Parker and Walker Creeks. Licensee shall continuously bypass the flows of Walker and Parker Creeks, except as provided in "Operations Records and Reporting" condition 18, item (b).
- d. Lee Vining Creek. Licensee shall provide bypass flows in Lee Vining Creek as specified in Table 2.
 - (1) Licensee shall provide flow below its point of diversion at least equal to the flow specified, or the inflow, whichever is less.
 - (2) Licensee shall measure inflow at the flume upstream of the diversion pond and shall measure bypass flow at the diversion dam.

12. Grant Lake Operations and Management Plan

Until the Deputy Director approves, and Licensee implements, the MBOP, Licensee shall implement the *Grant Lake Operations and Management Plan* (Feb. 29, 1996), as revised (GLOMP), and comply with the following additional requirements.

- a. Licensee shall prepare an AOP for its proposed water diversions and releases in the Mono Basin, in accordance with GLOMP, pp. 103-104 and the AOP condition 15 herein (to the extent applicable). If, for any reason, Licensee believes it cannot meet the flow requirements specified in this amended license, it shall provide a written explanation to the Deputy Director by May 1 of each year and inform the Deputy Director of the flows that will be provided.
- b. Licensee shall make reasonable efforts to maintain flows in Rush Creek between October 1 and March 31 below 70 cfs in order to avoid potential injury to the Rush Creek fishery. The Deputy Director may revise or eliminate this requirement upon written recommendation of the CDFW or based upon other evidence that the requirement is no longer needed.

- c. In Dry/Normal and Normal years, Licensee shall seek to have between 30,000 and 35,000 AF of water in storage in GLR at the beginning and end of the run-off year (April 1 to March 31). Licensee is not required to reduce storage in GLR below 11,500 AF in order to meet flow requirements.
- d. In Wet and Extreme Wet years, Licensee shall attempt to operate GLR to maximize the probability and magnitude of spills with a target of holding 40,000 AF of water in storage at GLR on April 1. If Licensee is unable to achieve this target, it shall provide a written explanation to the Deputy Director and Parties by May 1 of each year.

13. Grant Lake Reservoir Outlet

Licensee shall modify the GLR Facilities to include Grant Outlet that assures reliable delivery of the flow requirements specified in Table 1.

- a. Approval of Design. Licensee shall diligently choose a design capable of reliably releasing the flows specified in Table 1.
 - (1) Within 18 months of issuance of the final State Water Board order amending this license to incorporate this condition, Licensee shall request the Deputy Director to determine that the proposed design is adequate to convey the flows in Table 1. The request shall include a copy of any California Department of Water Resources, DSOD findings regarding the outlet design capacity and any other documentation necessary to show that the design will reliably convey the flows in Table 1. The request shall be accompanied by the CEQA document for the project.
 - (2) Before that date, Licensee shall apply for any other regulatory approvals necessary for construction, operation, and maintenance of Grant Outlet, including approval of DSOD. The request submitted in compliance with item (a)(1) of this condition shall include documentation of such applications. Licensee shall thereafter provide a copy of each regulatory approval to the Deputy Director, within 30 days of issuance. Licensee shall take all reasonable steps to obtain such approvals so as to permit the completion of construction, and the start of operation, within four years of the order amending this license to incorporate this condition.
- b. Construction and Operation. Licensee shall begin construction of the Grant Outlet within 12 months of the completion of the CEQA document, the Deputy Director's approval, and receipt of all other necessary

regulatory approvals. Licensee shall complete construction and begin to operate Grant Outlet within 18 months of receiving such regulatory approvals.

- c. Progress Reports. Licensee shall submit quarterly progress reports to the Division during the design, permitting, and construction of Grant Outlet.
- d. Extension. If Licensee cannot achieve a deadline for reasons beyond its control, Licensee shall timely request an extension of time from the Deputy Director, and Parties may comment.
- e. Funding. In order to offset the capital cost of Grant Outlet, Licensee may divert one time up to a total of 12,000 AF of water from the Mono Basin additional to the amount otherwise authorized by this amended license ("Mono Lake Level" condition 9, item (c)), for the period when Mono Lake is at or above 6,380 feet amsl and below 6,391 feet amsl ("Additional Export").
 - (1) Compliance. Licensee shall not divert Additional Export in a manner that causes a variance from the flow and minimum storage requirements specified in the SEFs condition 11.
 - (2) Schedule. The Additional Export will become available on the following schedule:
 - i. 4,000 AF upon receipt of all necessary regulatory approvals to construct the Grant Outlet;
 - ii. 4,000 AF upon active construction of the Grant Outlet;
 - iii. 2,000 AF subsequent to the first year classified as Wet/Normal, Wet, or Extreme Wet and in which the Grant Outlet is operated to provide the flows specified in Table 1; and
 - iv. 2,000 AF subsequent to the second year classified as Wet/Normal, Wet, or Extreme Wet and in which the Grant Outlet is operated to provide the flows specified in Table 1.
 - (3) Adjustment. The schedule and amount of Additional Export are subject to adjustment in the following four circumstances:
 - i. By further agreement between the Parties and Licensee and approval of the Deputy Director.

- ii. If non-licensee funds are timely secured to pay for all or part of the capital cost of the Grant Outlet. In that event, the Additional Export shall be reduced by an acre-foot amount equivalent to the value of the funding using the current Metropolitan Water District Full Service Untreated Volumetric Cost Tier II rate.
- iii. If the total value of the Additional Export, as measured by the current Metropolitan Water District Full Service Untreated Volumetric Cost Tier II rate, exceeds 50% of the capital cost of the Grant Outlet. In that event, the Additional Export shall be reduced. The reduction shall ensure that the value of the Additional Export does not exceed 50% of the capital cost.
- iv. If, for any reason, Grant Outlet does not begin operation within four years of the date of issuance of the final State Water Board order amending this license to incorporate this condition. In that event, Licensee shall not be allowed any Additional Export; and Licensee shall compensate for any Additional Export that has already occurred, by reducing further allowable export by an equivalent amount.

- (4) Planning. Licensee shall develop the schedule and other specifications for Additional Export in the MBOP and AOP.

14. Mono Basin Operations Plan

Licensee shall develop, implement, and periodically revise a MBOP. The MBOP shall specify the rules, guidelines, and criteria for operation of Licensee's Mono Basin facilities to meet all applicable requirements across all water year-types. The MBOP, and any subsequent modifications of the plan, are subject to review, modification and approval of the Deputy Director.

- a. Content. Licensee shall base the MBOP on GLOMP, taking into account the SEFs condition 11, and the capabilities of the Grant Outlet (for any MBOP, or MBOP revision, after Grant Outlet becomes operational). The MBOP shall: (1) be consistent with substantive elements of the *Mono Basin Operations Plan Outline* (May 2014) (Attachment 1); (2) provide for development of AOPs; and (3) supplement the rules and criteria for storage in GLR otherwise specified in this amended license, as necessary to ensure reliable operation of the Grant Outlet to deliver the flow requirements in Table 1.
- b. Planning and Review Process. Within one year of the final State Water Board Order amending this license to incorporate this condition, Licensee

shall develop the MBOP and submit it to the Deputy Director for review, modification, and approval.

- (1) Licensee shall consult with the Stream Monitoring Team (SMT) as defined in the "Stream Monitoring Program" condition 20, item (a), Division staff and the Parties in the development of the initial MBOP and any revision of the plan. The consultation shall include provision of a draft plan, with reasonable opportunity for review and comment on the plan. Licensee shall convene a meeting to address any unresolved comments.
 - (2) Licensee shall use eSTREAM, another mass balance model, or an equivalent daily planning tool for the planning and review process for the MBOP. Licensee shall grant the Parties and the Division permission to use the locked model, including any updates, to assist in this process and the implementation of the plan or revision. Permission for the Division to use the model is predicated on the understanding that that the Division will treat the model as a confidential trade secret to the fullest extent possible under Evidence Code section 1060, et seq.
 - (3) If the MBOP proposes to adjust the target or maximum ramping rates as stated in this amended license, Licensee shall include in its submission to the Deputy Director the SMT's opinion of the adjustment.
- c. Revisions. Following initial approval, Licensee shall develop and submit appropriate revisions to the MBOP when construction of Grant Outlet is complete, and every five years following the completion of construction, or more frequently if recommended by the SMT, to take into account operating experience for Grant Outlet. Review and adoption of revisions shall follow the process in item (b) of this condition.

15. Annual Operations Plan

Licensee shall develop and implement AOPs consistent with the MBOP.

- a. Content. The AOP shall specify Licensee's plans to operate its Mono Basin facilities for the runoff year to reliably comply with the flow and all other applicable requirements, taking into account the water year-type and other specific circumstances.
 - (1) The AOP shall be consistent with the MBOP.

- (2) The AOP shall incorporate any adaptive management of flow requirements recommended by the SMT, as provided in "Stream Monitoring Program" condition 20, item (c).
 - (3) The AOP shall require electronic reporting to the Division, SMT, and Parties describing the implementation of specified plan of operation, including actual runoff, exports, and bypass flows.
- b. Development. By May 15 of each year, Licensee shall develop and submit an AOP to the Deputy Director for review, modification, and approval, if necessary. No Division approval will be necessary if the terms of the AOP are entirely within the parameters of the MBOP then in effect. The submittal shall be subject to a 30-day review by the Division, subject to extension. At the end of the review period, the Licensee shall implement the AOP if the Deputy Director has not objected to, or modified, the AOP. Licensee shall timely implement any conditions of approval, or other modifications of the AOP, by the Deputy Director, irrespective of the date of modification.
- (1) By March 31 of each year, the Licensee shall convene a meeting to prepare for developing the AOP, and specifically to address any adaptive management of SEFs, variances from requirements of Tables 1 and 2, monitoring results, and forecasts of hydrology and exports. The meeting shall include, at a minimum, the SMT, the Waterfowl Director, the Limnology Directors (collectively, Monitoring Directors), and the Parties.
 - (3) By April 15, Licensee shall distribute a draft AOP to the Monitoring Directors and Parties for review and comment. Not later than May 5, Licensee shall convene an in-person meeting to address any unresolved comments.
 - (4) The AOP shall set forth the procedures for informing the SMT and Parties of adjustments in operations.
- c. Reporting. Licensee shall report its implementation of the AOP as follows. Licensee shall submit an electronic monthly report to the Monitoring Directors and Parties, not later than ten calendar days after the end of the month. Consistent with substantive elements of the Annual Operations Plan Monthly Report Overview (Attachment 2), each report shall include preliminary flow, ramping, storage, and operations data as well as available runoff data in a format comparable to the AOP, and a general overview of the conditions for the reporting month as well as a description of any actual and projected adjustments in operations necessary to respond to changed or unanticipated conditions. This information shall

also be submitted to the Division within five working days of any request by the Division.

- (1) The Licensee shall submit a quarterly report to the Division, within 60 days from the end of the quarter. It shall include final flow and operations data and shall describe actions taken by the Licensee that relate to implementation of the AOP.
 - (2) Licensee shall also provide any documents or reporting information required by this amended license with the electronic report of water diversion and use.
- d. Implementation. Licensee shall meet and confer with the SMT, applicable Limnology Director or Waterfowl Director, and Parties to address projections of significant adjustments in operations. Licensee shall grant the Division and Parties permission to use eSTREAM or an equivalent daily planning tool including any update, to assist with implementation of the AOP.

16. Water Year Classifications

For purposes of determining SEFs and other operations, the hydrologic year-type classification shall be determined using projected unimpaired runoff for the runoff year April 1 through March 31 as estimated using the LADWP Runoff Forecast Model for the Mono Basin. The unimpaired runoff is the sum of forecasts for the Lee Vining Creek, Walker Creek, Parker Creek, and Rush Creek sub-basins.

- a. Preliminary determinations of the runoff classification shall be made by Licensee in February, March, and April with the final determination made on or about May 1. The preliminary determinations shall be based on hydrologic conditions to date plus forecasts of future runoff assuming median precipitation for the remainder of the runoff year. Instream flow requirements prior to the final determination in May shall be based on the most recent runoff projection. Following issuance of a final determination in May, the determined hydrologic year classification shall remain in effect until the preliminary runoff determination made in April of the next year.
- b. The hydrologic year-type classification shall be as follows:

TABLE 3: WATER YEAR TYPES

Water Year-Type	Runoff	Percent Exceedance
Dry	Less than or equal to 68.5% of average runoff	80 - 100 %
Dry/Normal	Between 68.5% and 82.5% of average runoff	60 - 80%
Dry/Normal I	Greater than 68.5% and less than or equal to 75%	60 - 70%
Dry/Normal II	Greater than 75% and less than or equal to 82.5%	70 - 80%
Normal	Greater than 82.5% and less than or equal to 107% of average runoff	40 - 60%
Wet/Normal	Greater than 107% and less than or equal to 136.5% of average runoff	20 - 40%
Wet	Greater than 136.5% of average runoff	0 - 20%
Extreme Wet	Greater than 160% of average runoff	0 - 8%

- c. The water year-type classifications in Table 3, above, are based on 1941-1990 average runoff of 122,124 AF, and shall be updated periodically in MBOP based on the exceedances in the table above.

17. Coordination with Southern California Edison (SCE)

Licensee shall in all years coordinate with SCE regarding timing of spills and releases and may encourage SCE to coordinate their spills and releases with spills or SEF flows from GLR. To the extent of Licensee’s authority, Licensee’s coordination with SCE may include granting SCE waivers from the 5 percent storage rule otherwise applicable to SCE facilities, developing AOPs in consultation with SCE, and encouraging SCE to coordinate the release of excess water from Tioga Lake with peak flows in Lee Vining Creek.

18. Operations Records and Reporting

Licensee shall maintain continuous instantaneous measuring devices at each point of diversion which are satisfactory to the Deputy Director and which measure the streamflow above the diversion facility and the flow immediately below the diversion facility. Licensee shall maintain records from which the flow above and below the diversion facility, and the quantity of water diverted can be readily determined.

- a. Licensee shall make data from all existing and future Mono Basin data collection facilities covered under this amended license available on the same day it is collected on an internet web site. Licensee shall retrofit all of its existing and future Mono Basin data collection facilities covered under this amended license as necessary in order to comply with this requirement.
- b. Licensee shall notify the Division as soon as practical but not later than 5 business days after any event when the required SEFs are not met, or Licensee has not complied with any other requirement for the operation of Licensee's Mono Basin facilities. This notice shall include a written explanation of why the requirement was not met and any corrective actions that were, or will be, taken.

19. Stream Restoration Program

- a. Tasks to be Performed by Licensee. Licensee shall implement the requirements listed below. These actions shall not be funded or administered by the MAT pursuant to "Mono Basin Monitoring Administration Team" condition 23.
 - (1) Rush Creek Return Ditch. Licensee shall operate the Rush Creek Return Ditch, as approved by the Deputy Director.
 - (2) Large Woody Debris. Licensee shall add large woody debris to Rush Creek and Lee Vining Creek on an opportunistic basis based on recommendations of the SMT.
 - (3) Sediment Bypass. Licensee shall operate sediment bypass systems for Licensee's diversion structures on Walker Creek, Parker Creek and Lee Vining Creek, as approved by the Deputy Director.
 - (4) Livestock Grazing. Livestock grazing on Licensee's property within the riparian corridors of Lee Vining Creek, Walker Creek, Parker Creek and Rush Creek, downstream of points of diversion authorized under this amended license, is prohibited. Future grazing within the riparian corridors shall be subject to approval by the Deputy Director of a plan prepared by Licensee following consultation with CDFW and the United USFS.
 - (5) Road Management. Licensee shall maintain effective road closures in the floodplains of Rush and Lee Vining Creeks.

- (6) Fish Screens. If irrigation diversions resume, Licensee shall install and maintain fish screens acceptable to the CDFW on all active points of irrigation diversion.
 - (7) Lee Vining Creek Road Crossing. If action is taken to improve the Lee Vining Creek County Road crossing, Licensee shall recommend that a culvert not be installed.
- b. Tasks to be Performed by SMT. For restoration of fish and waterfowl habitat on Rush and Lee Vining Creeks, the SMT shall select the side-channel entrances suitable for reopening, based on the recommendations on pp. 129-131 of the Synthesis Report and any more recent data gathered by the SMT. Once the SMT has selected specific side-channel entrances to be re-opened, the SMT will provide site-specific criteria that will indicate that the re-opening was successful and no further active maintenance of the side-channel is required. The SMT will then re-open and maintain the selected side-channel entrances.
- (1) Licensee shall provide funding, as provided in the “Mono Basin Monitoring Administration Team” condition 23, to re-open and maintain the selected side-channel entrances. Licensee will not be required to expend more than the amount set forth in item (f) of condition 23, to re-open and maintain the side-channel entrances.
 - (2) The person(s) or entities doing site work for the side-channel re-opening and maintenance shall be responsible for complying with any agency permitting requirements (including CDFW and Regional Water Quality Control Board permits) for that work. Licensee shall support such permitting and provide land access as necessary.
- c. Modification. Pursuant to the procedures stated in the “Stream Monitoring Program” condition 20, items (f, g and h) and subject to the limitations stated in the “Stream Monitoring Program” condition 20, item (f)(4), the SMT shall make a recommendation to the Deputy Director regarding any recommended actions to attain the termination conditions in item (d) of this condition. The State Water Board maintains continuing authority to require modification of restoration actions as appropriate.
- d. Termination. Pursuant to the procedures stated in the “Stream Monitoring Program” condition 20, the SMT shall recommend, and Licensee may recommend, to the Deputy Director when stream restoration is complete. The stream restoration and monitoring programs may be terminated (excluding any continuing tasks) upon approval of the Deputy Director following public notice and opportunity for public comment. The Deputy Director will base his or her determination upon consideration of the following factors:

- (1) Whether fish are in good condition. This includes self-sustaining populations of brown trout and other trout similar to those that existed prior to diversion of water by Licensee and which can be harvested in moderate numbers. Information regarding conditions that existed prior to LADWP's diversions is set forth in Decision 1631.
- (2) Whether the stream restoration and recovery process has resulted in a functional and self-sustaining stream system with healthy riparian ecosystem components for which no extensive physical manipulation is required on an ongoing basis.

20. Stream Monitoring Program

- a. General. To ensure that the Stream Restoration Program and SEFs are achieving the restoration goals listed in the "Stream Restoration Program" condition 19, items (d)(1) and (d)(2), Licensee and the SMT shall implement the Stream Monitoring Program set forth in this condition. The SMT shall consist of appropriate and qualified independent scientists designated by the Deputy Director. Any member of the SMT may be replaced by decision of the Deputy Director for failure to comply with the requirements of this amended license or for other cause. The SMT shall report to the State Water Board as provided herein.
- b. Stream Monitoring Tasks Performed by Licensee. Licensee shall perform the monitoring tasks stated in Section A of the "Mono Basin Stream and Fish Monitoring Plan (July 2016) ("Stream Monitoring Plan") (Attachment 3), under the direction of the SMT.
- c. Stream Monitoring Tasks Performed by SMT. The SMT shall perform the monitoring tasks stated in Section B of the Stream Monitoring Plan. Licensee shall fund the monitoring tasks performed by the SMT and stated in Section B of the Stream Monitoring Plan by providing funding to the Mono Basin Monitoring Administration Team as required in the "Mono Basin Monitoring Administration Team" condition 23.
- d. Annual Monitoring Report. The specific monitoring to be conducted each year pursuant to this condition shall be set forth by the SMT in the Annual Monitoring Report described in item (g) of this condition and attached to the AOP. The SMT may adjust priorities and other details for such tasks, on the basis of recommendation as provided in item (g) of this condition.
- e. Use of Results. The results of the Stream Monitoring Plan shall be used to: (i) inform adaptive management of the SEFs, restoration program, and operations of Licensee's Mono Basin facilities; (ii) inform the State Water

Board and the public of the status of stream and fishery restoration in light of the factors stated in “Stream Restoration Program” condition 19, item (d); and (iii) serve as the basis for any further revisions to or termination of the monitoring program. The Stream Monitoring Program may terminate as provided in condition 19, item (d).

- f. Adaptive Management. The flow requirements in the “Stream Ecosystem Flows (SEFs)” condition 11, the restoration actions in the “Stream Restoration Program” condition 19, and the monitoring tasks in the “Stream Monitoring Program” condition 20, item (c), are subject to adaptive (including real-time) management by the SMT to achieve the goals specified in the “Stream Restoration Program” condition 19, item (d). Any adaptive management of flow requirements that are not within the parameters of the MBOP then in effect are subject to Deputy Director approval prior to implementation by Licensee. Adaptive management actions that do not require Deputy Director approval shall be submitted to the Division with the electronic report of water diversion and use.
- (1) Form. The SMT may recommend adaptive management of flow requirements in one of two ways: (i) in the Annual Monitoring Report and in comments on the AOP, for implementation in the following year; or (ii) on a real-time basis in response to unforeseen circumstances. Such recommendations shall be made by written notice to the Division, and are subject to review, modification, and approval of the Deputy Director. Such recommendations shall be developed in consultation with Licensee and Parties, each of whom shall designate representatives with the qualifications and authority necessary to assist in such adaptive management. For all other adaptive management recommendations, the SMT shall provide written notice to the Division.
 - (2) Implementation. The Licensee shall implement the recommendations, with any modifications included in the Deputy Director’s approval, unless timely disputed pursuant to the procedure specified in the “Dispute Resolution” condition 28.
 - (3) Range. Such adaptive management may modify the flow requirements specified in Table 1 or 2, by: (i) modifying the start or end dates, duration, or ramping rate of a hydrograph component, or specifying the timing or magnitude of a flow bypass in excess of Table 1 or 2, in order to improve ecological functions, or (ii) temporarily reducing flow for safety during stream monitoring activities.
 - (4) Limitations. Such adaptive management, including the range specified in item (f), paragraph (3) of this condition, shall not

materially: (i) increase the volume of water required to meet the flow requirements in the applicable Table 1 or 2 and the requirements of “Mono Lake Level” condition 9, (ii) reduce allowable export, or (iii) increase Licensee’s operational or capital costs. Adaptive management of (i) the restoration actions in the “Stream Restoration Program” condition 19 and (ii) the monitoring tasks in the “Stream Monitoring Program” condition 20 will not be considered to “increase Licensee’s operational or capital costs” as long as the recommended actions can be accomplished with the funding provided by Licensee pursuant to the “Mono Basin Monitoring Administration Team” condition 23, item (f). Further, such adaptive management does not authorize Licensee to take any action otherwise prohibited by this amended license.

- g. Annual Monitoring Reports. By February 1 of each year, the SMT shall submit to the Licensee an Annual Monitoring Report, setting forth the team’s evaluation of results and recommendations of any adaptive monitoring program. The monitoring report shall also include a comparison of stream conditions with the conditions in existence prior to 1941 and the stream conditions in existence prior to resumption of flows in Rush Creek in 1983, Lee Vining Creek in 1986, Walker Creek in 1990, and Parker Creek in 1990.
- (1) The SMT shall consult with Licensee and the Parties in the preparation of this report. It shall provide a draft report for their review and comment.
 - (2) By May 15 of each year, Licensee shall submit the SMT’s Annual Monitoring Report to the Division. Its submittal may include comments on the final report’s findings and recommendations and shall address the status of restoration projects undertaken pursuant to the conditions of this amended license.
- h. Periodic Overview Report. The SMT shall develop a Periodic Overview Report on the Stream Monitoring and Restoration Programs. This shall occur after Licensee has operated Grant Outlet to release SEFs in two above-Normal runoff years, at least one of which is Wet or Extreme Wet.
- (1) The report shall evaluate trends in stream conditions relative to the metrics in the “Stream Restoration Program” condition, item d, and Table 1 of the Stream Monitoring Plan (Attachment 2). It shall make recommendations for changes to the Stream Monitoring and Restoration Programs to increase effectiveness or reduce cost of the Programs, or for termination thereof.

- (2) In the development of the Periodic Overview Report, the SMT shall consult with Licensee and Parties and shall provide a draft plan for their review and comment.
- (3) The SMT shall submit the Periodic Overview Report to the Division. In response to this report, Licensee may request changes in the Programs or termination thereof. After considering any such request, responses thereto, or other comments by the Licensee or Parties, the Deputy Director may review and take final action on the recommendations in the report.

21. Waterfowl Habitat Restoration

Licensee shall implement the following measures from *Mono Basin Waterfowl Habitat Restoration Plan* (Feb. 29, 1996), with the following revisions, in order to help restore waterfowl habitat in the Mono Basin.

- a. North Basin Measures. Licensee shall provide funding in the amount of \$275,000 to the MAT pursuant to the requirements listed in the "Mono Basin Monitoring Administration Team" condition 23. The funding shall be used for unobtrusive lake-fringing waterfowl habitat restoration projects in the North Basin having all necessary state and/or federal approvals.
 - (1) The MAT shall determine if USFS intends, within one year of the issuance of this amended license, to finalize projects proposed prior to December 31, 2004 that restore or improve waterfowl habitat on USFS land or other land in the County Ponds and Black Point area. If finalized, funding priority shall be given to such projects.
 - (2) If no USFS programs are finalized within one year of the order amending this license to incorporate this condition, the MAT shall disperse funds for other unobtrusive lake-fringing waterfowl habitat restoration projects in the North Basin having all necessary state and/or federal approvals.
 - (3) Licensee and MAT are not required to assume responsibility for management or decisions regarding management of federal land, nor are they required to pay for any environmental review or studies undertaken by the USFS in accordance with its land management decisions and responsibilities. Any financial assistance to the USFS required by this provision is limited to funds needed to perform work which the USFS determines is appropriate to improve its water diversion and distribution facilities and related work to restore or improve waterfowl habitat in the County Ponds and/or Black Point areas.

- (4) The Waterfowl Director (provided in the “Mono Lake Limnology Monitoring Program, and Waterfowl and Waterfowl Habitat Monitoring Program” condition 22, item (b)) may recommend use of the \$275,000 consistent with this provision. If the Waterfowl Director carries out any waterfowl habitat restoration projects with this funding, the Waterfowl Director or sub consultants shall be responsible to comply with any permitting requirements of other agencies, and Licensee shall support such permitting and provide land access as necessary.
- b. Prescribed Burns. When Mono Lake reaches an elevation of 6,391 feet amsl, the State Water Board will consider the options and benefits of Licensee reactivating the prescribed waterfowl habitat burn program. If the program is reactivated, Licensee shall proceed with obtaining the necessary permits and approvals for the prescribed burning program described in the *Mono Basin Waterfowl Habitat Restoration Plan* (Feb. 29, 1996). Licensee shall provide the Deputy Director a copy of any environmental documentation for the program. Following review of the environmental documentation, Deputy Director may direct Licensee to proceed with implementation of the prescribed burning program. The Deputy Director may modify the requirements related to the prescribed burning program in the event that necessary permits cannot be obtained, there is evidence the burning may cause significant adverse environmental effects or damage to nearby property, or other information indicates that the program should be modified.
- c. Non-Native Vegetation. In the event that an interagency program is established for the control or elimination of salt cedar (*Tamarix*) or other non-native vegetation deemed harmful to waterfowl habitat in the Mono Basin, Licensee shall participate in that program and shall report on any work which it undertakes to control salt cedar or other non-native vegetation. Licensee’s report on work undertaken to control salt cedar or other non-native vegetation shall be included as a part of the annual report on waterfowl habitat restoration projects and filed with electronic report of water diversion and use.
- d. Environmental Review. In the event Licensee or MAT provides financial assistance for waterfowl habitat restoration projects proposed by another governmental agency, Licensee shall not be required to assume the environmental review responsibilities of the agency proposing the project. Prior to providing financial assistance for projects proposed by another governmental agency, Licensee or MAT shall inform the Deputy Director of the specific project for which financial assistance is to be provided with the electronic report of water diversion and use and shall provide a copy of relevant environmental documents to the Deputy Director. The Deputy

Director shall review any environmental document(s) submitted by Licensee. Licensee shall not provide financial assistance for projects pursuant to this amended license prior to: (1) notification that the Deputy Director has reviewed the environmental document; and (2) notification from the Deputy Director that the proposed project is consistent with applicable requirements.

22. Mono Lake Limnology Monitoring Program, and Waterfowl and Waterfowl Habitat Monitoring Program

The Licensee shall implement the hydrology, Mono Lake limnology, waterfowl habitat, and waterfowl population monitoring programs as described in the *Mono Basin Waterfowl Habitat Restoration Plan* (Feb. 29, 1996), with those revisions approved by the State Water Board including the following, in order to monitor the restoration and recovery of waterfowl habitat and waterfowl populations in the Mono Basin. These programs may be further modified by the Deputy Director in response to a request by Licensee or other entity, or as otherwise appropriate. Except as provided below, these programs shall be funded and administered by the MAT pursuant to the "Mono Basin Monitoring Administration Team" condition 23.

a. Mono Lake Limnology Monitoring Program

- (1) The Mono Lake Limnology Monitoring Program shall include, at a minimum, monitoring of meteorology, lake limnology, phytoplankton, and brine shrimp.
- (2) The Mono Lake Limnology Monitoring Program shall be carried out under the direction of a Limnology Director designated by the Deputy Director, after considering the recommendations of the Parties. The Limnology Director shall have expertise in the limnology of saline lakes. The Limnology Director may be replaced by decision of the Deputy Director for failure to comply with the requirements of this amended license or for other cause.

b. Waterfowl and Waterfowl Habitat Monitoring Program.

- (1) The Waterfowl and Waterfowl Habitat Monitoring Program shall include monitoring of springs, vegetation in riparian and lake-fringing wetland habitats, and waterfowl population surveys and studies.
- (2) The Waterfowl and Waterfowl Habitat Monitoring Program shall be carried out under the direction of a Waterfowl Director designated by the Deputy Director. Within 6 months of issuance of the final State Water Board order amending this license to incorporate this

condition, the Licensee and the Parties shall jointly nominate the Waterfowl Director. In the event of a dispute, the Division shall designate the director pursuant to the procedure provided in "Dispute Resolution" condition 28. The Waterfowl Director may thereafter be replaced by decision of the Deputy Director for failure to comply with the requirements of this amended license or for other cause.

- (3) Under the direction of the Waterfowl Director, the Licensee shall provide aerial photographs to the Waterfowl Director sufficient for use in waterfowl population studies and sufficient to identify changes in vegetation in waterfowl habitat areas. The aerial photographs for waterfowl population studies shall include waterfowl in the Mono Basin, at Bridgeport Reservoir, and at Long Valley Reservoir. The frequency of providing aerial photographs can be modified upon a determination by the Deputy Director. Licensee shall provide data in a format compatible for use with Geographic Information Systems. This requirement shall not be funded or administered by the MAT.
- c. Annual Monitoring Report. By May 15 of each year, Licensee shall submit final Annual Monitoring Reports to the Division. To facilitate this, by March 1 of each year, the Limnology Director and the Waterfowl Director shall each submit an Annual Monitoring Report to the Licensee, including evaluation of results and any recommendations for changes in the Waterfowl and Waterfowl Habitat Restoration Program.
- (1) In the development of their respective annual reports, the Limnology Director and the Waterfowl Director shall consult with the Licensee and Parties and shall provide drafts for their review and comment.
 - (2) Licensee's submittal to the Division may include comments on the findings and recommendations stated in the reports and shall address the status of restoration projects in the Mono Lake Basin. The Deputy Director maintains continuing authority to consider any comments by Licensee or Parties and modify this program.
- d. Periodic Overview Report. Every five years, the Limnology Director and the Waterfowl Director shall jointly develop a Periodic Overview Report on the Mono Lake Limnology Monitoring Program, and Waterfowl and Waterfowl Habitat Monitoring Program, and the waterfowl and limnology restoration actions required by this amended license. The report shall evaluate trends and make recommendations for changes to these Programs to increase effectiveness or reduce cost.

- (1) In the development of the Periodic Overview Review, the Limnology Director and the Waterfowl Director shall consult with Licensee and Parties and shall provide a draft report for their review and comment.
- (2) The Waterfowl Director and the Limnology Director shall submit their Periodic Overview Report to the Division. In response to this report, Licensee may move for changes in these Programs or termination thereof. The Deputy Director maintains continuing authority to consider any request, responses thereto, or other comments by Licensee or other Parties and to modify these Programs.

23. Mono Basin Monitoring Administration Team

- a. Purposes. To facilitate the implementation of the Stream Restoration and Monitoring Programs, a MAT shall be established. The MAT shall: (1) develop an annual Expenditure Plan for monitoring and specified restoration actions; and (2) oversee a Fiscal Administrator's contracts with the SMT, the Limnology Director, and the Waterfowl Director (collectively, Monitoring Directors), for the performance of their respective monitoring tasks, and any contract for administrative services necessary for the MAT to carry out its purposes. The MAT shall consist of the Parties and Licensee.
- b. Governance. The MAT shall consist of: CDFW, Mono Lake Committee, California Trout (with respect to the stream monitoring and restoration programs only), and the Licensee.
 - (1) Within 6 months after the final State Water Board order amending this license to include this condition, the MAT members shall enter into an agreement specifying meeting and governance procedures, including procedures that provide for timely resolution of any disputes.
 - (i). Under these procedures, the MAT shall carry out all actions approved by a majority of its members unless and until directed otherwise by the Division pursuant to the "Dispute Resolution" condition 28. A MAT member may not delay or prevent action by inaction or failure to participate in votes.
 - (ii). These procedures shall permit an independent annual audit under standard procedures used for a non-profit corporation. The cost of an audit shall be covered from a mutually agreeable source other than the State Water Board or

funding provided by Licensee under the MAT condition 23, item f.

- (2) Each member shall designate a representative who shall participate in the MAT's deliberations and votes, as follows: (i) for Licensee, the Aqueduct Manager or higher; (ii) for CDFW, an Environmental Scientist or higher; (iii) for Mono Lake Committee, the Eastern Sierra Policy Director or higher; and (iv) for California Trout, the Eastern Sierra Program Manager or higher.
- c. Fiscal Administrator. The MAT shall select and supervise a Fiscal Administrator, who shall be responsible: to (1) enter into and administer contracts with Monitoring Directors, (2) pay their invoices, and (3) perform certain other administrative duties.
- d. Administration of Monitoring Account.
 - (1) The Fiscal Administrator shall establish and administer a Mono Basin Monitoring Account at a bank or similar financial institution.
 - (2) The Fiscal Administrator shall prepare contracts and annual task orders with the Monitoring Directors, for the MAT's review and approval. Upon such approval, the Fiscal Administrator shall execute a contract or work order, as applicable. At the request of the applicable Monitoring Director, the Fiscal Administrator may enter into a conforming contract with a subconsultant for the performance of a monitoring task or a restoration project. The Monitoring Directors may assign tasks to Licensee's employees for performance, subject to the Licensee's approval and provided Licensee is responsible for the costs associated with such performance.
 - (3) The MAT shall review invoices for consistency with the approved Expenditure Report and Plan and applicable work orders. Upon its approval of an invoice, MAT shall instruct Fiscal Administrator to pay the invoice.
- e. Other Administration. The Fiscal Administrator, directly or through a contractor acceptable to the MAT, shall: (i) assist the Licensee, MAT, and Monitoring Directors in convening meetings related to the preparation of required plans and report, (ii) report to the MAT on all contracts and expenditures, and (iii) assist MAT in preparation of the Expenditure Report and Plan and related matters.
- f. Funding. Licensee shall fund the Mono Basin Monitoring Account, as follows.

- (1) Within 30 days of the Final Order, Licensee shall make one-time payments of: (i) \$500,000 for stream restoration projects as specified in the "Stream Restoration Program" condition 19, item (b); and (ii) \$275,000, pursuant to "Waterfowl Habitat Restoration" condition 21, item (a).
 - (2) By November 1 of each year, Licensee shall make an annual payment to the Monitoring Account for the purpose of next year's monitoring and associated administrative costs, excluding those tasks assigned to Licensee. This payment shall be \$575,000 (2014), of which \$299,000 shall be for stream monitoring, and \$276,000 for waterfowl and limnology monitoring. This payment shall be adjusted annually by Consumer Price Index (Los Angeles-Riverside).
 - (3) In any year in which Licensee is required to undertake an aerial photographic survey of riparian corridors, as provided in the "Stream Monitoring Program" condition 20, item (b), and Licensee chooses to comply with this requirement by requesting that the SMT undertake the survey, Licensee shall contribute an additional \$15,000 to the MAT stream monitoring fund in the year the survey is performed.
 - (4) Not later than September 1, the Licensee shall notify the Division if it disputes its obligation to provide such funding as required by the preceding paragraph. Any such dispute shall be limited to the issue whether the MAT has performed as required by this condition. The Division shall undertake to resolve such dispute in a timely manner. Licensee shall not withhold any required payment to the Mono Basin Monitoring Account unless and until the Division authorizes such action following resolution of Licensee's dispute.
 - (5) Licensee's funding obligation will be amended or ended upon Deputy Director termination of some or all of the monitoring programs, respectively. The funding amounts identified herein constitute Licensee's total monitoring funding obligations under the terms of Decision 1631 and Orders 98-05 and 98-07.
- g. Expenditure Report and Plan. By May 15 of each year, the MAT shall submit an Expenditure Report and Plan to the Division. The MAT, in consultation with the Monitoring Directors and the Fiscal Administrator, shall prepare a draft 30 days before final submittal.
- (1) The report shall include an accounting of all expenditures, contracts, and related matters in that year.

- (2) The plan shall propose a plan for expenditure of the annual funding for the following year's monitoring tasks. The MAT may propose: priorities for monitoring within the scope of the approved monitoring programs, the carry-over of funds to subsequent years for non-annual monitoring tasks, and the use of funds to cover the necessary costs of administration, including the Fiscal Administrator.
 - (3) The MAT shall implement the Expenditure Plan 30 days after submittal to the Division if the Deputy Director has not modified the plan. The MAT shall implement any modifications made by the Deputy Director.
- h. Termination of MAT. At any time after 10 years from the date of issuance of the final State Water Board order amending this license to incorporate this condition, Licensee may request termination of MAT. The Deputy Director may approve such termination upon approval of an alternative method to implement required monitoring programs. At any time, the Deputy Director may terminate the MAT: (1) on his or her own initiative; (2) on a request demonstrating that the MAT has not performed consistent with this condition; or (3) on a showing that the MAT's continuing administration of the monitoring programs will not be cost-effective. The Deputy Director may, at any time, invoke this subdivision for failure of the MAT to comply with the requirements of this amended license. Termination of the MAT shall not end or alter Licensee's obligations pursuant to other terms and conditions of this amended license; provided that, if such termination occurs at any time after 10 years from the date of approval of this condition, the Deputy Director will make a new determination whether to require continued reopening of side channels as provided in the "Stream Restoration Program" condition 19. Any funds remaining in the Mono Basin Monitoring Account upon termination of the MAT revert to Licensee.
- i. Limitations. The Licensee shall operate its Mono Basin facilities in compliance with all applicable requirements. It shall not delegate any such responsibility to the MAT.

24. Environmental Compliance by Licensee

- a. Unless otherwise provided in this amended license, Licensee shall be responsible for compliance with all applicable state and federal statutes governing environmental review of projects necessary to comply with the terms of the amended license.

- b. Licensee shall serve as lead agency for purposes of conducting the environmental review of programs or actions which it intends to carry out pursuant to the provisions of this amended license, in accordance with the provisions of the California Environmental Quality Act (CEQA, Public Resources Code sections 21000 *et seq.*). Licensee shall prepare a negative declaration, mitigated negative declaration, or environmental impact report for any projects it proposes to carry out which it determines are not exempt from CEQA, and shall submit a copy of relevant environmental documents to the Deputy Director. The Deputy Director shall review any environmental document(s) submitted by Licensee. Licensee shall not proceed with any project which is not exempt from CEQA prior to: (1) notification that the Deputy Director has reviewed the environmental document; and (2) notification from the Deputy Director to proceed with the specified project in accordance with: the provisions of this amended license, any mitigation measures proposed by Licensee, and any other mitigation measures determined to be necessary by the Deputy Director.
- c. If an environmental impact report is required for any measures in the restoration plans referenced in this amended license and approved by the State Water Board, or if revisions to the plans are necessary in order to qualify for a mitigated negative declaration, then the restoration plan or plans involved should be resubmitted for State Water Board approval following completion of the environmental impact report or negative declaration.

25. Cultural Resources

Licensee shall implement the Cultural Resources Treatment Plan as approved by the Deputy Director.

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26. Access.

Licensee shall provide the Monitoring Directors and individuals and entities acting under their direction with access to Licensee's land and facilities as necessary to carry out the restoration and monitoring requirements set forth in this amended license.

(0000011)

27. Documents

- a. Upon request, Licensee shall make copies of any and all documents (research designs, interim reports, draft reports, final reports, flow data, etc.) relating to provisions of this amended license available to the Deputy Director or his/her designee. Any notice or other document submitted to

the Division pursuant to these conditions shall be simultaneously served to the Parties by electronic mail or equivalent method, without charge.

- c. The Deputy Director will maintain a current reference file which includes:
(i) all monitoring and compliance reports; (ii) Attachments 1 and 2 to this amended license; (iii) *Mono Basin Stream Restoration and Monitoring Program: Synthesis of Instream Flow Recommendation to the State Water Resources Control Board and Los Angeles Department of Water and Power* (April 30, 2010); (iv) *Mono Basin Waterfowl Habitat Restoration Plan* (Feb. 29, 1996); (v) any other plans and reports referenced in this amended license; and (vi) prior orders, plans, and correspondence related to compliance with this amended license.

28. Dispute Resolution

- a. The Division will encourage and assist the Parties and Licensee to undertake informal dispute resolution.
- b. Any disputes regarding Licensee's compliance with the requirements of this amended license may be resolved by the Deputy Director. Upon a showing of good cause, the Deputy Director shall have the discretion and authority to modify provisions of this amended license regarding measures for restoration of streams and waterfowl habitat in the Mono Basin, provided that the Deputy Director shall promptly advise the State Water Resources Control Board of any such action(s). All actions by the Deputy Director taken pursuant to this paragraph, or otherwise pursuant to delegated authority in administration of this amended license, are subject to review by the State Water Board. Any modification of provisions of this amended license shall be preceded by notice to the Parties and opportunity for comment. In the event of a decision requiring action prior to providing an opportunity for comment, the Deputy Director shall promptly notify the Parties and provide an opportunity for comment on the action which was taken. The Deputy Director shall advise the State Water Board regarding whether and when it would be appropriate to schedule a hearing to determine when the stream and waterfowl habitat restoration measures required under this amended license may be deemed complete.

29. In accordance with the requirements of Fish and Game Code Section 5946, this amended license is conditioned on full compliance with Section 5937 of the Fish and Game Code. The Licensee shall release sufficient water into the streams from its dams to reestablish and maintain the fisheries which existed in them prior to its diversion of water.

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30. For purposes of water right fees associated with this amended license, Licensee shall report to the State Water Board within 10 days of April 1 in the year when

the level of Mono Lake reaches 6,391 feet amsl as of April 1. The report shall state that (1) the target lake level of 6,391 feet amsl was reached as of April 1; (2) pursuant to Term 2 of State Water Board Order WRO 2004-0025-EXEC, the 16,000 acre-foot per annum diversion limitation no longer applies once the target level is reached; and (3) consistent with State Water Board Order WRO 2004-0025-EXEC, it may be appropriate to assess higher annual fees for Licenses 10191 and 10192.

THIS RIGHT IS ALSO SUBJECT TO THE FOLLOWING TERMS AND CONDITIONS:

A. Right holder is on notice that: (1) failure to timely commence or complete construction work or beneficial use of water with due diligence, (2) cessation or partial cessation of beneficial use of water, or (3) failure to observe any of the terms or conditions of this right, may be cause for the State Water Board to consider revocation (including partial revocation) of this right. (Cal. Code Regs., tit. 23, § 850.)

(0000016)

B. Right holder is on notice that when the State Water Board determines that any person is violating, or threatening to violate, any term or condition of a right, the State Water Board may issue an order to that person to cease and desist from that violation. (Wat. Code, § 1831.) Civil liability may be imposed administratively by the State Water Board pursuant to Wat. Code, § 1055, or may be imposed by the superior court. The Attorney General, upon the request of the board, shall petition the superior court to impose, assess, and recover those sums. (Wat. Code, § 1846.)

(0000017)

C. Right holder is not authorized to make any modifications to the location of diversion facilities, place of use or purposes of use, or make other changes to the project that do not conform with the terms and conditions of this right, prior to submitting a change petition and obtaining approval of the State Water Board.

(0000018)

D. Right holder shall measure the amount of water beneficially used under this right using devices and/or methods satisfactory to the Deputy Director for Water Rights.

In order to demonstrate compliance with the beneficial use monitoring requirements of this right, right holder shall provide evidence that the devices and/or methods are functioning properly, in a manner satisfactory to the Deputy Director of Water Rights, within thirty days of first use of the device and/or method, with the reports required by chapter 2.7, title 23, California Code of Regulations, and whenever requested by the Division of Water Rights.

(0000015)

E. Right holder shall comply with the reporting requirements as specified in the terms of this right or any reporting requirements by statute, order, policy, regulation, decision, judgment, or probationary designation. The more stringent requirement shall control in each instance where there is conflict or inconsistency between the requirements.

Right holder shall comply with the reporting requirements of chapter 2.7, title 23, California Code of Regulations.

Right holder shall promptly submit any reports, data, or other information that may reasonably be required by the State Water Board, including but not limited to documentation of water diversion and beneficial use under this right, and documentation of compliance with the terms and conditions of this right.

(0000010)

F. Right holder shall grant, or secure authorization through right holder's right of access to property owned by another party, the staff of the State Water Board, and any other authorized representatives of the State Water Board the following:

1. Entry upon property where water is being diverted, stored, or used under a right issued by the State Water Board or where monitoring, samples and/or records must be collected under the conditions of this right;
2. Access to copy any records at reasonable times that are kept under the terms and conditions of a right or other order issued by State Water Board;
3. Access to inspect at reasonable times any project covered by a right issued by the State Water Board, equipment (including monitoring and control equipment), practices, or operations regulated by or required under this right; and,
4. Access to photograph, sample, measure, and monitor at reasonable times for the purpose of ensuring compliance with a right or other order issued by State Water Board, or as otherwise authorized by the Water Code.

(0000011)

G. This right shall not be construed as conferring right of access to any lands or facilities not owned by right holder.

(0000022)

H. All rights are issued subject to available flows. Inasmuch as the source contains treated wastewater, imported water from another stream system, or return flow from other projects, there is no guarantee that such supply will continue.

(0000025)

I. This right does not authorize diversion of water dedicated by other right holders under a senior right for purposes of preserving or enhancing wetlands, habitat, fish and wildlife resources, or recreation in, or on, the water. (Wat. Code, § 1707.) The Division maintains information about these dedications. It is right holder's responsibility to be aware of any dedications that may preclude diversion under this right.

(0000212)

- J. No water shall be diverted or used under this right, and no construction related to such diversion shall commence, unless right holder has obtained and is in compliance with all necessary permits or other approvals required by other agencies. If an amended right is issued, no new facilities shall be utilized, nor shall the amount of water diverted or used increase beyond the maximum amount diverted or used during the previously authorized development schedule, unless right holder has obtained and is in compliance with all necessary requirements, including but not limited to the permits and approvals listed in this term.

Within 90 days of the issuance of this right or any subsequent amendment, right holder shall prepare and submit to the Division a list of, or provide information that shows proof of attempts to solicit information regarding the need for, permits or approvals that may be required for the project. At a minimum, right holder shall provide a list or other information pertaining to whether any of the following permits or approvals are required: (1) lake or streambed alteration agreement with the Department of Fish and Wildlife (Fish & G. Code, § 1600 et seq.); (2) Department of Water Resources, Division of Safety of Dams approval (Wat. Code, § 6002); (3) Regional Water Quality Control Board Waste Discharge Requirements (Wat. Code, § 13260 et seq.); (4) U.S. Army Corps of Engineers Clean Water Act section 404 permit (33 U.S.C. § 1344); and (5) local grading permits.

Right holder shall, within 30 days of issuance of any permits, approvals, or waivers, transmit copies to the Division.

(0000203)

- K. Urban water suppliers must comply with the Urban Water Management Planning Act (Wat. Code, § 10610 et seq.). An "urban water supplier" means a supplier, either publicly or privately owned, providing water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 AF of water annually.

Agricultural water users and suppliers must comply with the Agricultural Water Management Planning Act (Act) (Water Code, § 10800 et seq.). Agricultural water users applying for a permit from the State Water Board are required to develop and implement water conservation plans in accordance with the Act. An "agricultural water supplier" means a supplier, either publicly or privately owned, providing water to 10,000 or more irrigated acres, excluding recycled water. An agricultural water supplier includes a supplier or contractor for water, regardless of the basis of right, which distributes or sells for ultimate resale to customers.

(0000029D)

- L. Pursuant to Water Code sections 100 and 275 and the common law public trust doctrine, all rights and privileges under this right, including method of diversion, method of use, and quantity of water diverted, are subject to the continuing

authority of the State Water Board in accordance with law and in the interest of the public welfare to protect public trust uses and to prevent waste, unreasonable use, unreasonable method of use, or unreasonable method of diversion of said water.

The continuing authority of the State Water Board may be exercised by imposing specific requirements over and above those contained in this right with a view to eliminating waste of water and to meeting the reasonable water requirements of right holder without unreasonable draft on the source. Right holder may be required to implement a water conservation plan, features of which may include but not necessarily be limited to (1) reusing or reclaiming the water allocated; (2) using water reclaimed by another entity instead of all or part of the water allocated; (3) restricting diversions so as to eliminate agricultural tailwater or to reduce return flow; (4) suppressing evaporation losses from water surfaces; (5) controlling phreatophytic growth; and (6) installing, maintaining, and operating efficient water measuring devices to assure compliance with the quantity limitations of this right and to determine accurately water use as against reasonable water requirements for the authorized project. No action will be taken pursuant to this paragraph unless the State Water Board determines, after notice to affected parties and opportunity for hearing, that such specific requirements are physically and financially feasible and are appropriate to the particular situation.

The continuing authority of the State Water Board also may be exercised by imposing further limitations on the diversion and use of water by right holder in order to protect public trust uses. No action will be taken pursuant to this paragraph unless the State Water Board determines, after notice to affected parties and opportunity for hearing, that such action is consistent with California Constitution, article X, section 2; is consistent with the public interest; and is necessary to preserve or restore the uses protected by the public trust.

(0000012)

- M. The quantity of water diverted under this right is subject to modification by the State Water Board if, after notice to right holder and an opportunity for hearing, the State Water Board finds that such modification is necessary to meet water quality objectives in water quality control plans which have been or hereafter may be established or modified pursuant to Division 7 of the Water Code. No action will be taken pursuant to this paragraph unless the State Water Board finds that (1) adequate waste discharge requirements have been prescribed and are in effect with respect to all waste discharges which have any substantial effect upon water quality in the area involved, and (2) the water quality objectives cannot be achieved solely through the control of waste discharges.

(0000013)

N. This right does not authorize any act which results in the taking of a candidate, threatened or endangered species or any act which is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish & G. Code, § 2050 et seq.) or the federal Endangered Species Act (16 U.S.C. § 1531 et seq.). If a "take" will result from any act authorized under this right, right holder shall obtain any required authorization for an incidental take prior to construction or operation of the project. Right holder shall be responsible for meeting all requirements of the applicable Endangered Species Act for the project authorized under this right.

(0000014)

O. The State Water Board's and the Deputy Director's approval authority includes the authority to withhold approval or to require modification of a proposal or plan prior to approval.

This right is issued and Licensee takes it subject to the following provisions of the Water Code:

Section 1627. A license shall be effective for such time as the water actually appropriated under it is used for a useful and beneficial purpose in conformity with this division (of the Water Code) but no longer.

Section 1629. Every licensee, if he accepts a license, does so under the conditions precedent that no value whatsoever in excess of the actual amount paid to the State therefore shall at any time be assigned to or claimed for any license granted or issued under the provisions of this division (of the Water Code), or for any rights granted or acquired under the provisions of this division (of the Water Code), in respect to the regulation by any competent public authority of the services or the price of the services to be rendered by any licensee or by the holder of any rights granted or acquired under the provisions of this division (of the Water Code) or in respect to any valuation for purposes of sale to or purchase, whether through condemnation proceedings or otherwise, by the State or any city, city and county, municipal water district, irrigation district, lighting district, or any political subdivision of the State, of the rights and property of any licensee, or the possessor of any rights granted, issued, or acquired under the provisions of this division (of the Water Code).

Section 1630. At any time after the expiration of twenty years after the granting of a license, the State or any city, city and county, municipal water district, irrigation district, lighting district, or any political subdivision of the State shall have the right to purchase the works and property occupied and used under the license and the works built or constructed for the enjoyment of the rights granted under the license.

Section 1631. In the event that the State, or any city, city and county, municipal water district, irrigation district, lighting district, or political subdivision of the State so desiring to purchase and the owner of the works and property cannot agree upon the purchase price, the price shall be determined in such manner as is now or may hereafter be provided by law for determining the value of property taken in eminent domain proceedings.

STATE WATER RESOURCES CONTROL BOARD



*Erik Ekdahl, Deputy Director
Division of Water Rights*

Dated: OCT 01, 2021

Enclosures:

Tables 1A to 1G - Stream Ecosystem Flows in Rush Creek

Tables 2A to 2C - Stream Ecosystem Flows in Lee Vining Creek

Attachment 1 – Mono Basin Operations Plan Outline

Attachment 2 - Annual Operations Plan Monthly Report Overview

Attachment 3 - Mono Basin Stream and Fish Monitoring Plan

TABLE 1A: RUSH CREEK STREAM ECOSYSTEM FLOWS FOR EXTREME-WET YEARS

Hydrograph Component	Timing	Flow Requirement	Ramping Rate
Spring Baseflow	April 1 – April 30	40 cfs	Maximum: 10% or 10 cfs*
Spring Ascension	May 1 – May 15	40 cfs ascending to 80 cfs	Target: 5% Maximum: 25%
Spring Bench	May 16 – June 11	80 cfs	Maximum: 20%
Snowmelt Ascension	June 12 – June 22	80 cfs ascending to 220 cfs	Target: 10% Maximum: 20%
Snowmelt Bench	June 23 – August 10	220 cfs	Maximum Ascending: 20% Maximum Descending: 10% or 10 cfs*
Snowmelt Flood and Snowmelt Peak	Starting between June 23 and July 19 with the 5-day peak between June 29 and July 29	220 cfs ascending to 750 cfs, 750 cfs for 5 days, 750 cfs descending to 220 cfs	Target Ascending: 20% Maximum Ascending: 40% Maximum Descending: 10% or 10 cfs*
Medium Recession (Node)	August 11 – August 25	220 cfs descending to 87 cfs	Target: 6% Maximum: 10% or 10 cfs*
Slow Recession	August 26 – September 30	87 cfs descending to 30 cfs	Target: 3% Maximum: 10% or 10 cfs*
Fall and Winter Baseflow	October 1 – March 31	27 cfs target (25 cfs minimum and 29 cfs maximum)	Maximum: 10% or 10 cfs*
			* whichever is greater

TABLE 1B: RUSH CREEK STREAM ECOSYSTEM FLOWS FOR WET YEARS

Hydrograph Component	Timing	Flow Requirement	Ramping Rate
Spring Baseflow	April 1 – April 30	40 cfs	Maximum: 10% or 10 cfs*
Spring Ascension	May 1 – May 15	40 cfs ascending to 80 cfs	Target: 5% Maximum: 25%
Spring Bench	May 16 – June 11	80 cfs	Maximum: 20%
Snowmelt Ascension	June 12 – June 19	80 cfs ascending to 170 cfs	Target: 10% Maximum: 20%
Snowmelt Bench	June 20 – August 1	170 cfs	Maximum Ascending: 20% Maximum Descending: 10% or 10 cfs*
Snowmelt Flood and Snowmelt Peak	Starting between June 20 and July 8 with the 5-day peak between June 27 and July 19	170 cfs ascending to 650 cfs, 650 cfs for 5 days, 650 cfs descending to 170 cfs	Target Ascending: 20% Maximum Ascending: 40% Maximum Descending: 10% or 10 cfs*
Medium Recession (Node)	August 2 – August 15	170 cfs descending to 71 cfs	Target: 6% Maximum: 10% or 10 cfs*
Slow Recession	August 16 – September 13	71 cfs descending to 30 cfs	Target: 3% Maximum: 10% or 10 cfs*
Summer Baseflow	September 14 – September 30	30 cfs target 28 cfs minimum	Maximum: 10% or 10 cfs*
Fall and Winter Baseflow	October 1 – March 31	27 cfs target 25 cfs minimum and 29 cfs maximum	Maximum: 10% or 10 cfs*
			* whichever is greater

TABLE 1C: RUSH CREEK STREAM ECOSYSTEM FLOWS FOR WET/NORMAL YEARS

Hydrograph Component	Timing	Flow Requirement	Ramping Rate
Spring Baseflow	April 1 – April 30	40 cfs	Maximum: 10% or 10 cfs*
Spring Ascension	May 1 – May 15	40 cfs ascending to 80 cfs	Target: 5% Maximum: 25%
Spring Bench	May 16 – June 11	80 cfs	Maximum: 20%
Snowmelt Ascension	June 12 – June 18	80 cfs ascending to 145 cfs	Target: 10% Maximum: 20%
Snowmelt Bench	June 19 – July 23	145 cfs	Maximum Ascending: 20% Maximum Descending: 10% or 10 cfs*
Snowmelt Flood and Snowmelt Peak	Starting between June 19 and July 1 with the 3-day peak between June 26 and July 10	145 cfs ascending to 550 cfs, 550 cfs for 3 days, 550 cfs descending to 145 cfs	Target Ascending: 20% Maximum Ascending: 40% Maximum Descending: 10% or 10 cfs*
Medium Recession (Node)	July 24 – August 4	145 cfs descending to 69 cfs	Target: 6% Maximum: 10% or 10 cfs*
Slow Recession	August 5 – September 1	69 cfs descending to 30 cfs	Target: 3% Maximum: 10% or 10 cfs*
Summer Baseflow	September 2 – September 30	30 cfs target 28 cfs minimum	Maximum: 10% or 10 cfs*
Fall and Winter Baseflow	October 1 – March 31	27 cfs target 25 cfs minimum and 29 cfs maximum	Maximum: 10% or 10 cfs*
			* whichever is greater

TABLE 1D: RUSH CREEK STREAM ECOSYSTEM FLOWS FOR NORMAL YEARS

Hydrograph Component	Timing	Flow Requirement	Ramping Rate
Spring Baseflow	April 1 – April 30	40 cfs	Maximum: 10% or 10 cfs*
Spring Ascension	May 1 – May 15	40 cfs ascending to 80 cfs	Target: 5% Maximum: 25%
Spring Bench	May 16 – June 11	80 cfs	Maximum: 20%
Snowmelt Ascension	June 12 – June 16	80 cfs ascending to 120 cfs	Target: 10% Maximum: 20%
Snowmelt Bench	June 17 – July 14	120 cfs	Maximum Ascending: 20% Maximum Descending: 10% or 10 cfs*
Snowmelt Flood and Snowmelt Peak	Starting between June 17 and June 25 with the 3-day peak between June 23 and July 3	120 cfs ascending to 380 cfs, 380 cfs for 3 days, 380 cfs descending to 120 cfs	Target Ascending: 20% Maximum Ascending: 40% Maximum Descending: 10% or 10 cfs*
Medium Recession (Node)	July 15 – July 26	120 cfs descending to 58 cfs	Target: 6% Maximum: 10% or 10 cfs*
Slow Recession	July 27 – August 17	58 cfs descending to 30 cfs	Target: 3% Maximum: 10% or 10 cfs*
Summer Baseflow	August 18 – September 30	30 cfs target 28 cfs minimum	Maximum: 10% or 10 cfs*
Fall and Winter Baseflow	October 1 – March 31	27 cfs target 25 cfs minimum and 29 cfs maximum	Maximum: 10% or 10 cfs*
			* whichever is greater

TABLE 1E: RUSH CREEK STREAM ECOSYSTEM FLOWS FOR DRY/NORMAL II YEARS

Hydrograph Component	Timing	Flow Requirement	Ramping Rate
Spring Baseflow	April 1 – May 18	40 cfs	Maximum: 10% or 10 cfs*
Spring Ascension	May 19 – June 2	40 cfs ascending to 80 cfs	Target: 5% Maximum: 25%
Snowmelt Bench	June 3 – June 30	80 cfs	Maximum Ascending: 20% Maximum Descending: 10% or 10 cfs*
Snowmelt Flood and Snowmelt Peak	Starting between June 2 and June 15 with the 3-day peak between June 6 and June 21 coinciding with Parker and Walker Creek peaks	80 cfs ascending to 200 cfs, 200 cfs for 3 days, 200 cfs descending to 80 cfs	Target Ascending: 20% Maximum Ascending: 40% Maximum Descending: 10% or 10 cfs*
Medium Recession (Node)	July 1 – July 8	80 cfs descending to 48 cfs	Target: 6% Maximum: 10% or 10 cfs*
Slow Recession	July 9 – July 24	48 cfs descending to 30 cfs	Target: 3% Maximum: 10% or 10 cfs*
Summer Baseflow	July 25 – September 30	30 cfs target 28 cfs minimum	Maximum: 10% or 10 cfs*
Fall and Winter Baseflow	October 1 – March 31	27 cfs target 25 cfs minimum and 29 cfs maximum	Maximum: 10% or 10 cfs*
			* whichever is greater

TABLE 1F: RUSH CREEK STREAM ECOSYSTEM FLOWS FOR DRY/NORMAL 1 YEARS

Hydrograph Component	Timing	Flow Requirement	Ramping Rate
Spring Baseflow	April 1 – April 30	40 cfs	Maximum: 10% or 10 cfs*
Spring Ascension	May 1 – May 15	40 cfs ascending to 80 cfs	Target: 5% Maximum: 25%
Snowmelt Bench	May 16 – July 3	80 cfs	Maximum Ascending: 20% Maximum Descending: 10% or 10 cfs*
Medium Recession (Node)	July 4 – July 9	80 cfs descending to 55 cfs	Target: 6% Maximum: 10% or 10 cfs
Slow Recession	July 10 – July 30	55 cfs descending to 30 cfs	Target: 3% Maximum: 10% or 10 cfs*
Summer Baseflow	July 31 – September 30	30 cfs target 28 cfs minimum	Maximum: 10% or 10 cfs*
Fall and Winter Baseflow	October 1 – March 31	27 cfs target 25 cfs minimum and 29 cfs maximum	Maximum: 10% or 10 cfs*
			* whichever is greater

TABLE 1G: RUSH CREEK STREAM ECOSYSTEM FLOWS FOR DRY YEARS

Hydrograph Component	Timing	Flow Requirement	Ramping Rate
Spring Baseflow	April 1 – April 30	30 cfs	Maximum: 10% or 10 cfs*
Spring Ascension	May 1 – May 18	30 cfs ascending to 70 cfs	Target: 5% Maximum: 25%
Snowmelt Bench	May 19 – July 6	70 cfs	Maximum Ascending: 20% Maximum Descending: 10% or 10 cfs*
Medium Recession (Node)	July 7 – July 12	70 cfs descending to 48 cfs	Target: 6% Maximum: 10% or 10 cfs*
Slow Recession	July 13 – July 28	48 cfs descending to 30 cfs	Target: 3% Maximum: 10% or 10 cfs*
Summer Baseflow	July 29 – September 30	30 cfs target 28 cfs minimum	Maximum: 10% or 10 cfs*
Fall and Winter Baseflow	October 1 – March 31	27 cfs target 25 cfs minimum and 29 cfs maximum	Maximum: 10% or 10 cfs*
			* whichever is greater

TABLE 2A LEE VINING CREEK STREAM ECOSYSTEM FLOWS

Timing: April 1 – September 30						Year-type: Extreme/Wet, Wet, Wet/Normal, Normal, Dry/Normal II				
Maximum ramping at the beginning and end of this period is 20%.										
Inflow	Flow Requirement									
30 cfs or less	Licensee shall bypass inflow.									
31 – 250 cfs	Licensee shall bypass flow in the amount corresponding to inflow which is displayed as blocks of 10 cfs (left-hand vertical column) and 1 cfs increments within such blocks (top horizontal row).									
	0	1	2	3	4	5	6	7	8	9
30		30	30	30	30	30	31	32	33	34
40	30	31	32	33	34	35	36	37	38	39
50	35	36	37	38	39	40	41	42	43	44
60	45	46	47	48	49	50	51	52	53	54
70	55	56	57	58	59	60	61	62	63	64
80	60	61	62	63	64	65	66	67	68	69
90	70	71	72	73	74	75	76	77	78	79
100	75	76	77	78	79	80	81	82	83	84
110	85	86	87	88	89	90	91	92	93	94
120	95	96	97	98	99	100	101	102	103	104
130	100	101	102	103	104	105	106	107	108	109
140	110	111	112	113	114	115	116	117	118	119
150	120	121	122	123	124	125	126	127	128	129
160	130	131	132	133	134	135	136	137	138	139
170	135	136	137	138	139	140	141	142	143	144
180	145	146	147	148	149	150	151	152	153	154
190	155	156	157	158	159	160	161	162	163	164
200	160	161	162	163	164	165	166	167	168	169
210	170	171	172	173	174	175	176	177	178	179
220	180	181	182	183	184	185	186	187	188	189
230	190	191	192	193	194	195	196	197	198	199
240	195	196	197	198	199	200	201	202	203	204
250	200									
251 cfs and greater	Licensee shall bypass inflow.									

TABLE 2B: LEE VINING CREEK STREAM ECOSYSTEM FLOWS

Timing: April 1 – September 30					Year-type: Dry/Normal I, Dry					
Maximum ramping at the beginning and end of this period is 20%.										
Inflow	Flow Requirement									
30 cfs or less	Licensee shall bypass inflow.									
31 – 250 cfs	Licensee shall bypass flow in the amount corresponding to inflow which is displayed as blocks of 10 cfs (left-hand vertical column) and 1 cfs increments within such blocks (top horizontal row).									
	0	1	2	3	4	5	6	7	8	9
30		30	30	30	30	30	30	30	30	30
40	30	30	30	30	30	30	30	30	30	30
50	30	30	30	30	30	30	30	30	31	32
60	32	33	34	34	35	36	36	37	38	38
70	39	40	41	41	42	43	43	44	45	45
80	46	47	47	48	49	49	50	51	52	52
90	53	54	54	55	56	56	57	58	59	59
100	60	61	61	62	63	64	64	65	66	66
110	67	68	69	69	70	71	72	72	73	74
120	74	75	76	77	77	78	79	80	80	81
130	82	82	83	84	85	85	86	87	88	88
140	89	90	91	91	92	93	94	94	95	96
150	97	97	98	99	100	100	101	102	103	103
160	104	105	106	106	107	108	109	109	110	111
170	112	112	113	114	115	115	116	117	118	118
180	119	120	121	121	122	123	124	124	125	126
190	127	128	128	129	130	131	131	132	133	134
200	134	135	136	137	138	138	139	140	141	141
210	142	143	144	144	145	146	147	148	148	149
220	150	151	151	152	153	154	155	155	156	157
230	158	158	159	160	161	162	162	163	164	165
240	165	166	167	168	169	169	170	171	172	172
250	173									
251 cfs and greater	Licensee shall bypass inflow.									

TABLE 2C: LEE VINING CREEK STREAM ECOSYSTEM FLOWS

Timing: October 1 – March 31		Year-type: All		
Maximum ramping at the beginning and end of this period and at all times is 20%.				
Timing	Flow Requirement			
	Extreme/Wet, Wet	Wet/Normal	Normal	Dry/Normal II, Dry/Normal I, Dry
October 1 – October 15	30 cfs	28 cfs	20 cfs	16 cfs
October 16 – October 31	28 cfs	24 cfs	18 cfs	
November 1 – November 15	24 cfs	22 cfs		
November 16 – March 31	20 cfs	20 cfs		

Attachment 1

Los Angeles Department of Water and Power

**Amended Licenses 10191 (Application 8042) and 10192
(Application 8043)**

Mono Basin Operations Plan Outline

INTRODUCTION

Plan for management of Mono Basin streams (Lee Vining, Rush, Walker, Parker) and aqueduct facilities including Grant Lake Reservoir. Plan presents the Stream Ecosystem Flows (SEFs) and Mono Lake level requirements and identifies operational rules and procedures necessary to reliably deliver SEFs, follow lake level rules, and export water.

Background

Discuss D1631, GLOMP, Order 98-05, Synthesis Report.

Synthesis of Instream Flow Recommendations Report

Brief description & reason for the report. Briefly describe CAMMP modeling subgroup and insights gained from collaborative effort.

Changes from GLOMP

Brief discussion of changes. More detailed discussions in body of report. Direct reader to sections where major changes are discussed. Include overview of revised hydrographs. Include overview of new infrastructure to support implementation of SEFs.

Document Organization

Include each chapter title, plus brief description of chapter. Brief description can be intro paragraph to chapter.

MONO BASIN HYDROLOGY

This section discusses Mono Basin hydrology. Year types are redefined based on the period of record and 50-year average runoff is updated every 5 years upon approval of MBOP revisions by the Deputy Director, Division of Water Rights (Deputy Director). Discussion of additional factors that may affect Mono Basin hydrology.

Mono Basin Overview

Provide overview of streams draining to Mono Lake. Streams are snowmelt-driven, and most of the contributing precipitation occurs in winter. Upstream SCE reservoirs also affect the timing of runoff, but usually there is little effect on volume over the course of the runoff year. Include revised projections of when Mono Lake will reach 6,391.

Recurrence Intervals

Analysis of overall annual runoff for period of record vs. the last 50 years. Compare with what was used in D1631.

Year Types

Define year types based on period of record and recurrence interval analysis.

Climate Change

Long-term changes observed and expected. Summarize already observed and probable future effects of climate change. Discuss findings of LADWP 2011 Eastern Sierra Climate Study.

LADWP MONO BASIN FACILITIES

Overview of operations, facilities, and limitations. Much of this (except Lee Vining facilities and planned Grant Outlet upgrade) can be taken from GLOMP with some revision.

Operations Overview

Mono Basin Facilities

Lee Vining Diversion Facility

Diverts water from Lee Vining Creek into Lee Vining Conduit. Langemann gate provides greater operating efficiency. Discuss in detail the different ways the facility can be managed and the pros and cons of each strategy.

Lee Vining Conduit

Runs from Lee Vining Creek at the Diversion Facility to Grant Lake Reservoir.

Walker Creek Diversion Facility

Provides capability to divert to Lee Vining Conduit, but no water is currently diverted during most year-types. Discuss in detail the sediment bypass procedures.

Parker Creek Diversion Facility

Provides capability to divert to Lee Vining Conduit, but no water is currently diverted during most year-types. Discuss in detail the sediment bypass procedures.

Lee Vining Conduit Five Siphon Bypass Facility

Allows diversion of Lee Vining water to Rush Creek. Used to achieve water temperatures in Rush Creek in Dry and Dry-Normal I years. Discuss in detail the operations procedures.

Grant Lake Reservoir

Regulates flow on Rush Creek, receives flow from Lee Vining Creek, and stores water for SEFs, export, fishery, recreation, and marina purposes. Grant Lake Reservoir allows LADWP to provide higher peak flows to Rush Creek and lower base flows to Rush Creek and Lee Vining Creek than would otherwise occur from the regulated SCE flows.

Grant Lake Reservoir Outlet Facility (existing)

Regulates flow released from Grant Lake Reservoir. Flow goes to export or to Rush Creek through MGORD. Discuss in detail the operations procedures.

Grant Lake Reservoir Outlet Facility (new)

This is the new larger Grant Lake Reservoir outlet that delivers SEF flows to Rush Creek.

Facility Location

Facility Design and Specifications

Facility Construction

Facility Operation

Mono Gate One

Used to divert water released from Grant Lake Reservoir down Rush Creek through MGORD. Formerly difficult to operate and imprecise in regulating flow, but upgraded in 2009 and tested in 2011. Discuss upgrades and current operations in detail.

Mono Gate One Return Ditch

Returns flow from Grant Lake Reservoir to Rush Creek. Capacity is 380 cfs but maintenance and monitoring are needed in order to use that capacity. Ditch was tested in 2004 and 2011, and the

tests provided some valuable data discussed in other sections. Discuss in detail the operations, maintenance, and monitoring procedures.

Mono Tunnels

Export passes from West Portal to East Portal through the Mono Craters Tunnel. Discuss in detail the operations, maintenance, and monitoring procedures.

Operational Limitations

Facilities are limited in their precision, which affects LADWP's ability to regulate flows. SCE reservoirs regulate flow in Rush Creek upstream of Grant Lake Reservoir and in Lee Vining Creek. Discuss the operational limitations and accuracy of each facility.

MANAGEMENT RESOURCES

Resources available to effectively manage LADWP facilities, Mono Basin streams, reservoirs, and Mono Lake. (Portions of data and models sections can be taken from GLOMP with some revision.)

Data

Snow Surveys/Pillows

Field Reconnaissance

Flow Monitoring

All measuring stations identified in L10191 and L10192 post same-day information on the Internet. Discuss each measuring device and its accuracy. Discuss Website, Daily Aqueduct Report, and procedures and sources of error or down-time in detail. Discuss plans for upgrades or changes. Daily average data is included in annual reporting; discuss other sources of data (AS400) and the types of data and period of record. Discuss availability of different data sources.

Models

Runoff Forecast Model

The runoff forecast model is used to predict the annual runoff for the four streams and the monthly distribution of runoff. Operations are based on the year type predicted by the runoff forecast model on February 1, March 1, and April 1 and updated on May 1. Discuss the May 1 forecast protocol developed in 2011 and implemented in 2012.

Mono Basin Operational Model -- eSTREAM

The Grant Lake model previously was used for annual operations only. It did not have the capability to run useful multi-year simulations. eSTREAM, a MS-Excel-based model, was developed by Watercourse Engineering and has been improved by a collaborative effort between the parties. eSTREAM is a key tool that will be used each year to plan releases, exports, and reservoir levels specified in the AOP. Monthly runs will allow AOP adjustments based on actual events

Peak Snowmelt Prediction Model

The timing of the release of peak flows in Rush Creek should coincide, if possible, with the peaks in Parker and Walker Creeks. Rush Creek peak can be timed to coincide with seeding of riparian species in certain years. A peak snowmelt prediction model allows the timing of these peaks to be more accurately predicted, contributing to more efficient operations.

Degree-day Model for Predicting Cottonwood Seeding

This model was developed by McBain & Trush and used by LADWP to predict peak seed release from cottonwoods. This model can be used in conjunction with the peak snowmelt prediction model in order to time Rush Creek's peak for each year's optimum ecological opportunities.

LADWP Personnel

Watershed Resources

Hydrographers

Water Operation Engineers

Other Entities

Mono Lake Committee, Cal Trout , California Dept. of Fish and Wildlife

Monitoring Administration Team (MAT)

Southern California Edison

US Forest Service

MONO BASIN STREAMFLOW HYDROGRAPHS

Contains SEFs. Discuss each hydrograph component, ramping rates, and other relevant elements. Discuss effects and considerations for successive year types.

Overview of SEF Hydrographs

Approach, what they accomplish.

Base Flows

Base flows provide fish habitat, BMI habitat, and groundwater and vegetation maintenance.

Spring Base Flow

Summer Base Flow

Fall Base Flow

Winter Base Flow

Rising Limb

Spring Ascension

Spring Bench

Snowmelt Ascension

Snowmelt Bench

The snowmelt bench provides a starting and ending point for the release of a snowmelt flood.

Snowmelt Flood

Peak Timing

Peak Magnitude and Frequency

Ecological Functions

Peak magnitude does geomorphic work and/or inundates floodplain for vegetation growth. Moves LWD etc. (get list from Synthesis Report), discuss instantaneous vs. daily average

Ecological Functions of Winter Floods

Peak Duration

Ecological Functions

Peak duration affects sediment movement and vegetation germination. Suspended sediment experiments in 2005 contributed to understanding.

Fast Recession

Recession Limb

Medium Recession (Node)

Slow Recession

Temperature Management

How to manage required temperature control releases from Lee Vining Creek into Rush Creek.

Ramping Rates

Purposes of Synthesis Report ramping rates. Ramping rate options for achieving better timing of Rush Creek peaks with Parker/Walker peaks and/or seedling germination, depending on whether maximum geomorphic work or maximum vegetation rooting is the goal for the year. Ramping guidance, targets, and minima from Synthesis Report. Flexibility for quick reaction to opportunities/events and operational and facility limitations.

October 1 – March 31 Rush Creek flow limitations

Review license conditions designed to avoid negative fishery impacts during this time of year

Successive Year Type Effects

Successive dry years. Successive wet years. How operations are affected in these situations. Less runoff than predicted may be available after multiple dry years, and identify what actions to take at specified thresholds as reservoir declines each year.

Adaptive Management of SEFs

Describe how SEFs may be adaptively managed, the limits on adjustments, and how annual adaptive management adjustments are determined and reported.

Interim Rush Creek SEF

Described modified Rush Creek SEFs that apply until the new Grant Lake Outlet is placed into service.

Streamflow Hydrographs

The complete SEF hydrographs for Rush, Lee Vining, Walker, and Parker creeks

GRANT LAKE RESERVOIR MANAGEMENT

Reservoir minimums

Minimum pool: 11,500 acre feet

Temperature minimum: 20,000 acre-feet July 1 – September 30

Trigger for temperature releases at five siphons: below 25,000 acre-feet July 1

Reservoir management approach required for new Grant Lake Outlet to function

Discuss how reservoir level management is integral to new Outlet having capability to reliably deliver Rush Creek SEFs. Refer to reservoir management targets and rules in the "Operational Planning Guidelines" section.

MONO LAKE LEVELS

Streamflow planning should include water in addition to SEFs, when required, to meet lake level requirements. Describe lake level rules affecting exports. Provide forecast for lake level rise.

Lake Maintenance Water

Water needed to reach target lake level and maintain long-term management level. During transition period, and in certain post-transition period situations, flow in excess of the SEFs are released to achieve lake level requirements and comply with export rules. There are better and worse times of year to release that water. General guidance for releasing lake maintenance water to maximum benefit will be described here. The Annual Operation Plan will incorporate specific annual adaptively managed release schedules that specify when to release lake level maintenance water

Lake Level rules for exports

Transition Period

Post-transition period

Lake Level transition period

Provides current modeling forecast for the time needed for Mono Lake to achieve the 6,391 trigger elevation.

MONO BASIN EXPORTS

Discuss available exports. Discuss Upper Owens requirements. Describe desired schedule – timing and magnitude by year type--for exports from Grant Reservoir.

Available Exports

Exports are limited by Mono Lake levels, SEFs, GLR levels, Upper Owens flow cap, and downstream aqueduct constraints. Water available to export is managed throughout the year to maintain GLR levels and provide export.

Upper Owens River

Review export rules related to Upper Owens and their effect on scheduling exports.

Export scheduling

Review desired time pattern for exports. Review LADWP export goals for different year types. The export plan for each specific year will be developed in the Annual Operation Plan.

OPERATIONAL PLANNING GUIDELINES

This is the section of the report which will be used by operators and planners to schedule the releases and exports. Planning guidelines cover stream releases and export for each runoff year type.

SEF schedules by year type for all four creeks

Adaptive management of the SEF schedule is also possible; how developed and how to incorporate into planning

SEF Adjustments for Interim Operation period

Modified Rush Creek rules until Grant Lake Reservoir outlet is operational including any temporary Reservoir rules necessary during construction.

Guidelines for additional release for Mono Lake level maintenance

Provides guidelines in tabular form for scheduling additional water releases to achieve and maintain Mono Lake levels. The timing of these flows may be also be identified in annual adaptive management specifications.

Grant Lake Reservoir Targets/Rules by Year Type

Detailed reservoir rules and targets necessary to assure reliable delivery of Rush Creek SEF utilizing new Grant Lake Outlet. Describe how these rules and targets were developed via modeling and other techniques. Describe compliance check points and prioritized corrective actions if targets not met.

Extreme Wet

Wet

Wet-Normal

Normal

Dry-Normal II

Dry-Normal I

Dry

Extenuating circumstances

ANNUAL OPERATIONS PLAN

Describe the purpose and goals of the Annual Operations Plan (AOP). Outline the procedure and timeline for development and submission to the State Water Board.

Purpose and goals

The AOP will describe how operations will work for the current year-type to accomplish exports and stream releases in accordance with the provisions of the water license. The goal is to develop the AOP in a collaborative manner with the involved parties to avoid disputes and assure smooth and efficient operations during the course of the year.

Contents

The AOP will provide specific daily and other information about the flow schedule, export, and all facility operations for the year ahead. The AOP will also review the prior year's plan and compare it to actual runoff and operations.

Adaptive Management

The AOP will incorporate adaptive management adjustments to the SEFs.

Development and update process

The AOP is created yearly. A draft plan is created in April and a final is completed in May. The final is submitted to the State Water Board by May 15.

Drafts will be circulated among the parties with meetings and phone calls as necessary to facilitate development of the final plan. An early May in-person meeting will be held to review the draft plan and resolve any issues.

In June, July, August, September, and October, updates of actual runoff, inflows, releases, exports, and reservoir levels for the previous month will be sent to the parties, evaluating forecast accuracy and identifying any necessary changes to the plan.

Annual Meeting

An annual in-person meeting will be conducted in early May or other convenient time to review the draft AOP and resolve outstanding questions before submission of the final AOP to State Water Board. Meetings will be in Bishop unless an alternate location is preferred by the parties.

Disputes

The goal is to produce an AOP that has support of LADWP and the settlement parties. Reasonable efforts will be made by all parties to resolve disagreements during AOP development process. Unresolved issues may be taken up with the Deputy Director, Division of Water Rights when the AOP is submitted.

MONO BASIN OPERATIONS PLAN REVISIONS AND UPDATES

MBOP is a living document that should contain up to date information to maximize efficiency of LADWP operations, assure compliance, and facilitate communications with involved parties.

Revision Schedule

MBOP to be developed and revised consistent with the terms of the settlement agreement.

Revision Process

Revisions will be developed in collaboration with interested parties with goal of preparing a jointly supported document. Revision process to include circulation of changes, comment period, discussion meeting. Revised document will be submitted to State Water Board for review, comment period, and final approval.

REFERENCES AND APPENDICES

Comments and Responses to Comments on 2014 MBOP

2010 Synthesis Report

1996 Grant Lake Operations and Management Plan

Attachment 2

Los Angeles Department of Water and Power

**Amended Licenses 10191 (Application 8042) and 10192
(Application 8043)**

Annual Operations Plan Monthly Report Overview

*To provide report contents clarity for Amended Licenses 10191 and 10192's condition
15(c)*

Annual Operations Plan Monthly Report Overview

Monthly Report

Amended Licenses 10191 and 10192's provision 15(c) provides for LADWP to "submit an electronic monthly report to the SMT, Limnology and Waterfowl Monitoring Directors, and Parties, not later than ten calendar days after the end of the month." The following components shall be included in the monthly report, and the report may be adapted over time to include new and changed data sources and information:

- 1) An Operations Report that includes
 - a. Overview data
 - (1) Including water year-type classification and permissible runoff year exports, Mono Lake elevation, reservoir storage, forecasted and actual unimpaired runoff, actual inflow, planned and actual exports and releases.
 - b. Amended Licenses conditions in effect for the month
 - (1) including Grant Lake, Rush Creek, Lee Vining Creek, and Exports
 - c. Criteria used to determine which condition is in effect
 - d. Narrative information about Annual Operations Plan (AOP) implementation.
 - (1) Narrative will address relevant content in the Mono Basin Operations Plan (MBOP) and the year's AOP (not just the license tables).
 - (2) Narrative will include a description of the month's hydrology and operations, how they differed from the AOP, and any recommended (or already-made) operational changes needed to respond to changed or unanticipated conditions.
 - (3) Narrative will include, when applicable, year-to-date hydrology, such as the forecasted unimpaired runoff to date vs. observed
 - (4) Narrative will include any other relevant information required by the Amended Licenses, MBOP, AOP or at the discretion of LADWP. For example, in May the final runoff and Mono Lake level forecasts would be relevant, in June or July a report of peak flow magnitudes and dates would be relevant, and in wet years any releases of water for Mono Lake on top of minimum SEFs would be relevant.
 - e. The attached sample report shows one option for concise presentation of this information

- 2) A Preliminary Daily Data Report from Mono Basin stations relevant to AOP implementation, attached as an Excel file (or similar format such as CSV). The Preliminary Daily Data Report is expected to provide provisional (not final) data and include:
 - a. Grant Lake Reservoir elevation and storage, shown alongside any relevant rule curves, targets, or planned operations from the AOP (this may be shown graphically as well).
 - b. Mean daily data or 7 AM daily read data or both
 - (1) Lee Vining above
 - (2) Lee Vining below
 - (3) Walker above
 - (4) Walker below
 - (5) Parker above
 - (6) Parker below
 - (7) Rush above
 - (8) Grant Outflow (cone valve)
 - (9) MGORD release
 - (10) Grant Outlet (spillway gates)
 - (11) Grant uncontrolled spill
 - (12) Rush below (summed total of sources)
 - (13) Lee Vining conduit diversion
 - (14) Five Siphons Bypass
 - (15) West Portal
 - (16) East Portal
 - (17) Upper Owens below East Portal
 - (18) Rush below Walker and Parker confluence (sum of sources and new gauge when available)
 - c. Annual Operations Plan planned flows
 - (1) Lee Vining Creek
 - (2) Rush Creek
 - (3) West Portal
 - d. Daily ramping rate
 - (1) Lee Vining Creek below
 - (2) Rush below (summed total of sources)
 - e. Grant Lake data, midnight or 7AM read
 - (1) Grant stage
 - (2) Grant storage
 - (3) Grant storage change
 - f. Daily Southern California Edison (SCE) storage at Rush Meadows, Gem, Agnew, Saddlebag, Tioga, and Rhinedollar Lakes (subject to availability of data from SCE)
 - g. Operation notes relevant to operational changes

- h. Data from new stations and sources as relevant, new data from existing stations as relevant, etc.

- 3) A Preliminary Monthly Data Report from Mono Basin stations relevant to AOP implementation, attached as an Excel file (or similar format such as CSV). The Preliminary Monthly Data Report will include:
 - a. All months of the runoff year
 - b. Actual and Forecasted unimpaired runoff for Lee Vining Creek, Rush Creek, Walker Creek, and Parker Creek
 - c. Report to include summary forecasted and actual unimpaired runoff totals to date for the four stations above
 - d. Report to include end of month SCE storage at Rush Meadows, Gem, Agnew, Saddlebag, Tioga, and Rhinedollar Lakes (subject to availability of data from SCE)
 - e. Mono Lake monthly forecasted vs. actual elevation

Quarterly Report

Amended Licenses 10191 and 10192's provision 15(c)(1) provides for LADWP to "submit a quarterly report to the Division, within 60 days from the end of the quarter. It shall include final flow and operations data and shall describe actions taken by the Licensee that relate to implementation of the AOP."

The quarterly report shall cover a three-month time span and be similar in content to the monthly report. In addition, it shall:

- 1) Provide final (not provisional) data
- 2) Include daily or monthly maximum and minimum flow data or both for
 - a. Lee Vining Creek below
 - b. Rush below (summed total of sources)

Attachment 3

Los Angeles Department of Water and Power

**Amended Licenses 10191 (Application 8042) and 10192
(Application 8043)**

Mono Basin Stream and Fish Monitoring Plan

July 2016

This plan states the monitoring tasks related to Lee Vining, Rush, Parker and Walker Creeks, pursuant to Amended Licenses 10191 and 10192. Upon approval by the State Water Resources Control Board (State Water Board), Licensee shall perform those tasks stated in Section A, and the Stream Monitoring Team (SMT) shall perform those tasks stated in Section B.

A. TASKS PERFORMED BY LOS ANGELES DEPARTMENT OF WATER AND POWER (LADWP)

1. *Sediment bypass monitoring*

Licensee shall demonstrate to the Deputy Director, Division of Water Rights (Deputy Director) that the sediment bypass facilities on Parker and Walker Creeks are effectively passing the bedload.

2. *Aerial photography*

Licensee shall undertake an aerial photographic survey of riparian corridors at five-year intervals and after Wet and Extreme-Wet years, provided that Licensee shall not be required to undertake more than three surveys in a trailing five-year period. The surveys shall cover the creek corridor of 1) Rush Creek from Grant Lake Reservoir (GLR) to Mono Lake, 2) Lee Vining Creek from Highway 395 to Mono Lake, and 3) Parker and Walker Creeks from the Lee Vining Conduit to the Rush Creek confluence.

The surveys shall produce high resolution orthorectified photographs that are true color images (four bands, including Near InfraRed), attain 3.5 cm per pixel resolution, and use airborne GPS/IMU.

The Licensee may copyright any such survey that it undertakes; provided that Licensee shall make the images available to the State Water Board, Parties, and Stream Monitoring Team (SMT) at no charge to facilitate the monitoring and restoration activities described in Amended Licenses 10191 and 10192.

Licensee may obtain and provide photographic survey information of the same or better quality by other means, including by requesting that the surveys be undertaken by the SMT. If the SMT undertakes such a survey at the request of Licensee, that survey shall be funded and administered by the Monitoring Administration Team (MAT), as provided in Amended Licenses 10191 and 10192, "Mono Basin Monitoring Administration Team (MAT)" condition 23, item (f)(3).

3. *One-time test of Five Siphons Bypass Release*

Incident to the initial operation of the Five Siphons Bypass as required in the Amended Licenses 10191 and 10192, "Stream Ecosystem Flows (SEFs)" condition 11, item (b)(2)(ii), Licensee shall notify the SMT and shall allow the team to design and conduct a one-time test of the effects of using the bypass at various discharge levels on water temperature in Rush Creek and flow and temperature effects between the Lee Vining conduit and Rush Creek. Licensee shall describe the plan of operation in the Annual Operations Plan (AOP) and provide the SMT with operational support necessary to carry out this test. Data loggers shall be installed prior to the test at the following three locations: (1) Lee Vining Conduit at the head of the Five Siphons Bypass; (2) confluence of the Five Siphons Bypass with Rush Creek; and (3) Rush Creek immediately upstream of Parker Creek.

Following the test, protocols for future operation of the Five Siphons Bypass, if any, will be recommended by the SMT and included in the Mono Basin Operations Plan (MBOP).

All SMT expenses for this one-time study shall be funded through the Amended License 10191 and 10192, "Mono Basin Monitoring Administration Team (MAT)" condition 23, item (c)(2).

4. *Streamflow gauge measurement*

Licensee shall record streamflow gauge measurements for sites on Rush, Parker, Walker, and Lee Vining Creeks pursuant to the Amended Licenses, "Operating Records and Reporting" condition. Licensee shall provide a map to the Division of Water Rights (Division) showing gauge locations.

B. TASKS PERFORMED BY STREAM MONITORING TEAM (SMT)

The SMT shall perform the tasks stated in this section, and Licensee shall cooperate as provided herein and as otherwise provided in Amended Licenses 10191 and 10192. The SMT shall use the monitoring metrics stated in Table 1 of this plan for the purpose of evaluating and reporting progress towards the factors stated in Amended Licenses 10191 and 10192, "Stream Restoration Program" condition 19, item (d).

1. *Hydrology Monitoring*

a. Stream and Reservoir Temperatures

The SMT shall record stream temperatures at (1) the LADWP flume on Rush Creek above GLR, (2) seven locations along Rush Creek below GLR, and (3) two locations each on Parker, Walker, and Lee Vining Creeks.

The SMT shall procure monitoring devices for the flume sites. Licensee shall secure these devices at the flume sites. Licensee shall provide a map to the Division showing temperature recording locations upon request. Temperature data loggers shall be set at one hour recording intervals and data shall be reported annually in tabular and graphic formats.

The SMT shall measure water temperature and dissolved oxygen concentrations in GLR annually for three years following the issuance of the Amended Licenses and in any subsequent year in which GLR's storage falls or is projected to fall below 20,000 acre feet, in order to verify the effect of GLR on Rush Creek water temperature. Measurements shall be at minimum one-meter depth intervals at the deepest part of the reservoir, adjacent to the existing GLR outlet. In years when measurement is required, reservoir data shall be collected in the afternoon on at least one day in July, August, September, and February. All data shall be provided to the Parties and State Water Board.

b. Rush Creek County Road Gauge

The SMT shall install a new, continuously-recording stream flow gauge near the old County Road Gauge location, or the existing infrastructure of the County Road Gauge may be modified, so that flow data are recorded at or near this site in Rush Creek. After installation/modification of the gauge, Licensee shall provide the gauge location on a map to the Division.

2. *Geomorphic Monitoring*

a. Ground Photography

SMT shall continue ground photo-monitoring at selected streamflows at monumented photo-points previously established on Rush Creek and Lee Vining Creek at approximately 5-year intervals. The photo-monitoring established along riparian band transects shall also be continued only for those transects with specific monitoring objectives at the same 5-year intervals to track changes in riparian vegetation community structure.

b. Riffle Crest Thalweg Elevation (RCTE) Surveys

SMT shall survey RCTEs from the Narrows downstream to Mono Lake along Rush Creek and from the top of the A3 side-channel downstream to Mono Lake along Lee Vining Creek. RCTEs shall also be surveyed along Rush Creek side-channels 3D, and Lee Vining Creek A-3 and A-4 side-channels. This information shall be collected at 5-year intervals or after all Wet and Extreme-Wet runoff years.

c. Floodplain Complex Surveys

In accordance with a schedule approved by the Deputy Director, SMT shall survey the 4-Floodplain and 8-Floodplain complex in Lower Rush Creek to establish a physical monitoring infrastructure. The survey schedule shall be included in the SMT's Annual Monitoring Report.

Initial surveys shall utilize differential-grade GPS with Wide Area Augmentation System capability to achieve a horizontal accuracy of <1 meter. Subsequent surveys may use traditional surveying equipment for surveying RCTEs in the mainstem, floodplains, and side-channels.

The locations to be surveyed shall be mapped and provided to the Division. A series of well-positioned benchmarks and stage plates is necessary to facilitate future survey work, and benchmarks and stage plate locations will be provided on a map to the Division. This master map containing GPS data overlaid onto aerial photos shall be used to direct annual monitoring.

Existing piezometers in the complex and two piezometers on Lee Vining Creek shall be monitored and a groundwater and floodplain monitoring plan shall be prepared, consistent with the recommendations of the SMT and the schedule approved by the Deputy Director.

d. Floodplain Deposition

The SMT shall monitor floodplains on Rush Creek and Lee Vining Creek for net fine sediment deposition using previous cross sections to the greatest extent feasible. Emergent, intermediate, and advanced floodplain surfaces shall be repeatedly surveyed to monitor long-term net changes in floodplain aggradation.

3. Channel Roughness

SMT shall monitor trends in Manning's roughness coefficient, N , at bankfull discharge (approximately 350 cfs in Rush Creek and 250 cfs in Lee Vining Creek), and at discharges greater than the bankfull discharge, on a maximum of eight channel reaches

in Rush Creek and three channel reaches in Lee Vining Creek in accordance with a schedule approved by the Deputy Director. Survey cross section locations shall be mapped and provided to the Division. The initial setup, monitoring specifications, and timing for surveys shall be included in the Annual Monitoring Report, consistent with the schedule approved by the Deputy Director.

In year 8 or 9 following the approval of Amended Licenses 10191 and 10192, an instream flow study shall be conducted re-evaluating the streamflow/habitat relationships in the evolving stream channels of Rush and Lee Vining Creeks. Channels will be evaluated for increased roughness and increased habitat complexity at lower baseflows. Following the study, the SMT shall recommend any necessary adaptive management of the SEFs described in Amended Licenses 10191 and 10192.

4. *Riparian Vegetation in the Rush Creek and Lee Vining Creek Corridors*

a. Riparian Vegetation Mapping

The SMT shall map riparian vegetation acreage and composition of the Rush and Lee Vining Creek corridors on 0.5 foot pixel resolution aerial photographs. The information shall be collected for two five-year intervals from the date of the Order incorporating this requirement into Amended Licenses 10191 and 10192.

b. Annual Woody Riparian Vegetation Vigor Assessment

The SMT shall measure ten years of cottonwood (*Populus*) stem growth on 50 branches at each of ten floodplain locations within Lower Rush Creek and at four locations within Lee Vining Creek in accordance with a plan established in the Annual Monitoring Report. The measurement locations shall be provided on a map to the Division.

5. *Fish Population and Habitat Monitoring*

a. Fish Sampling

In even calendar years, the SMT shall sample Rush Creek, Lee Vining Creek, Walker Creek, and the Mono Gate One Return Ditch with mark-recapture electrofishing, and the Lee Vining Creek side channel and Walker Creek shall be sampled with depletion estimates. Passive Integrative Transponder (PIT) tags shall be implanted annually in age-0 fish.

These data will be used to generate a population estimate, calculate Relative Stock Density (RSD) values, and calculate specific growth rate information. Lengths and weights measured from recaptured PIT tagged fish shall be used to calculate specific growth rates so that actual growth rates may be compared to predicted growth rates.

In odd calendar years, the SMT shall sample Rush Creek, Lee Vining Creek, Walker Creek, and the Mono Gate One Return Ditch (MGORD) with single-pass electrofishing to generate length-frequency histograms for evaluation of age-class structure, weight and length data for condition factor analysis, RSD values to evaluate proportions of catchable-sized trout, implant PIT tags, and recapture previously tagged fish for annual growth calculations.

A map of locations of sample reaches shall be provided to the Division. The Division shall also be provided with a sampling protocol for the fisheries population monitoring (approved by the SMT fisheries expert).

b. Brown Trout (*Salmo trutta*) Habitat Surveys

The SMT shall conduct habitat typing and pool surveys on Rush and Lee Vining Creeks in the same reaches surveyed in 2011 to monitor pool and deep-run habitats for brown trout. This information shall be collected after all Wet and Extreme-Wet runoff years, or every 5 years, totaling no more than three surveys over the first ten years.

**Table 1.
Monitoring Metrics**

Monitoring Category	Metric	Units
Grant Lake Reservoir	elevation above sea level	feet (ft)
	storage volume	acre-feet (af)
	water temperature	degrees F or C
Hydrology	stream flow	cubic feet per second (cfs)
	depth to groundwater	feet (ft)
	stream temperature	degrees F or C
	streamflow gains and losses	cubic feet per second (cfs)
Geomorphic	main channel complexity	Manning's N
	net floodplain aggradation	feet (ft)
	main channel length	feet (ft)
	riffle crest elevations	feet (ft)
	side channel stage heights	feet (ft)
	deep pool frequency	feet per pool per reach
	run frequency	feet per run per reach
	pool residual depth and channel width	feet (ft)
	pool cover	percent (%)
	bed topography of Parker and Walker diversion pond deltas and forebays	feet (ft)
Riparian vegetation	woody vegetation acreage	acres per reach (ac/reach)
	cottonwood shoot length	centimeters of growth per year (cm/yr)
Fish	trout biomass	kilograms per hectare (kg/ha)
	trout density	trout/kilometer (trout/km)
	trout length	millimeters (mm)
	trout weight	grams (g)
	trout relative condition factor	No units, 1.00 considered fish in average condition, <1.00 in poor condition. $K = W/aL^b$
	relative stock density of catchable trout >225 mm	percent x 100
	relative stock density of trout >300 mm	percent x 100