

in co-ordination with other units of the Central Valley Project for consumptive uses and salinity control in the Sacramento-San Joaquin Delta, provided such agreement is entered into within one year from date of issuance of a decision by the State Water Rights Board in connection with and after hearing on Applications 5625, 5626, 9363, 9364, 9365, 9366, 9367, 9368 and 10588 of permittee, and is approved by the State Water Rights Board, or in the event of failure to reach an agreement by that date, this permit shall be subject to further order of the Board, which order shall be preceded by further hearings.

10. Permittee shall by-pass down the natural channel of American River below Folsom Dam and Nimbus Dam for the purpose of maintaining fish life such flows as are provided for in that certain document entitled "Memorandum of Operating Agreement for the Protection and Preservation of Fish Life in the American River as Affected by Folsom and Nimbus Dams and their Related Works and Diversion of Water Under Contracts with the United States" between the United States and the California Department of Fish and Game, dated October 15, 1957, filed of record as Fish and Game Exhibit 19 of the hearing of Applications 13370, 13371, 13372, and 14462.

11. Deliveries of water under this permit shall be limited to deliveries for beneficial use within Placer, Sacramento and San Joaquin Counties and shall not be made beyond the westerly or southerly boundaries thereof, except on a temporary basis, until the needs of those counties, present or prospective, are fully met provided, however, that agreements in accordance with Federal Reclamation laws between permittee and parties desiring such service within said counties are executed by July 1, 1968.

12. The right to divert and store water and apply said water to beneficial use as provided in this permit is granted to the United States as Trustee for the benefit of the public agencies of the State together with the landowners and water users within such public agencies as shall be supplied with the water appropriated hereunder.

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EXHIBIT BKS-1

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(0430300)

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(0280300)

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13. Subject to compliance by the public agencies concerned with any and

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Exhibit No. SWRCB 11 - p. 165

release	February						
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Reclamation, in coordination with the work group, shall review updated hydrology and choose a monthly average release for every month (November, December, January, February), based on the release schedule. In the event that the updated hydrology indicates a very dry pattern and consequent likely reduction in storage, the work group may advise Reclamation to take additional actions, including export curtailments, if necessary to conserve storage.

If there is a disagreement at the work group level, actions may be elevated to NMFS and resolved through the WOMT's standard operating procedures.

**Rationale:** It is necessary to be reasonably conservative with fall releases to increase the likelihood of adequate storage in the following year to provide cold water releases for winter-run. This action is intended to reduce adverse effects on each species without compromising the ability to reduce adverse effects on another species. A work group with biologists from multiple agencies will refine the flow schedule, providing operational certainty while allowing for real-time operational changes based on updated hydrology. Over time, it may be possible to develop a generic release schedule for these months, based on the experience of the work group.

**Action I.2.2.C. Implementation and Exception Procedures for EOS Storage of 1.9 MAF or Below**

If the EOS storage is at or below 1.9 MAF, then Reclamation shall:

- 1) In early October, reduce Keswick releases to 3,250 cfs as soon as possible, unless higher releases are necessary to meet temperature compliance points (see action I.2.3).
- 2) Starting in early October, if cool weather prevails and temperature control does not mandate higher flows, curtail discretionary water deliveries (including, but not limited to agricultural rice decomposition deliveries) to the extent that these do not coincide with temperature management for the species. It is important to maintain suitable temperatures targeted to each life stage. Depending on air and water temperatures, delivery of water for rice decomposition, and any other discretionary purposes at this time of year, may coincide with the temperature management regime for spring-run and fall-run. This action shall be closely coordinated with NMFS, USFWS, and CDFG.
- 3) By November 1, submit to NMFS storage projections based on 50 percent, 70 percent, and 90 percent hydrology through February. In coordination with NMFS, Reclamation shall: (1) develop a monthly average Keswick release schedule similar in format to that in Action I.2.2.B, based on the criteria below and including actions specified below; and (2) review updated hydrology and choose a monthly average release for every month, based on the release schedule. November releases shall be based on a 90 percent hydrology estimate.

Exh. No. SWRCB-84, p. 595

Criteria and actions:

- 1) Keswick releases shall be managed to improve storage and maintained at 3,250 cfs unless hydrology improves.
- 2) November monthly releases will be based on 90 percent hydrology.
- 3) Consider fall-run needs through January as per CVPIA AFRP guidelines, including stabilizing flows to keep redds from dewatering.
- 4) Continue to curtail discretionary agricultural rice decomposition deliveries to the extent that these do not coincide with temperature management for the species, or impact other ESA-listed species. It is important to maintain suitable temperatures targeted to each life stage. Depending on air and water temperatures, delivery of water for rice decomposition may coincide with the temperature management regime for spring-run and fall-run. This action shall be closely coordinated with NMFS, USFWS, and CDFG.
- 5) If operational changes are necessary to meet Delta outflow, X2, or other legal requirements during this time, then:
  - a) CVP/SWP Delta combined exports shall be curtailed to 2,000 cfs if necessary to meet legal requirements while maintaining a 3,250 cfs Keswick release (or other planned release based on biological needs of species); and
  - b) if it is necessary to curtail combined exports to values more restrictive than 2000 cfs in order to meet Delta outflow, X2, or other legal requirements, then Reclamation and DWR shall, as an overall strategy, first, increase releases from Oroville or Folsom; and
  - c) in general, Reclamation shall increase releases from Keswick as a last resort.
  - d) Based on updated monthly hydrology, this restriction may be relaxed, with NMFS' concurrence.
- 6) If the hydrology and storage have not improved by January, additional restrictions apply – see Action I.2.4.

**Rationale:** Per actions I.2.3 and I.2.4 below, Reclamation is required to meet 1.9 MAF EOS. The BA's CALSIM modeling shows that during a severe or extended drought, 1.9 EOS storage may not be achievable. In this circumstance, Reclamation should take additional steps in the fall and winter months to conserve Shasta storage to the maximum extent possible, in order to increase the probability of maintaining cold water supplies necessary for egg incubation for the following summer's cohort of winter-run.

Assessment of the hydrologic record and CALSIM modeling shows that operational actions taken during the first year of a drought sequence are very important to providing adequate storage and operations in subsequent drought years. The biological effects of an extended