United States Department of the Interior
BUREAU OF RECLAMATION

BCOO-4200
WTR-4.03

JAN 31 2008

CERTIFIED – RETURN RECEIPT REQUESTED

Mr. Steve B. Robbins
General Manager-Chief Engineer
Coachella Valley Water District
P.O. Box 1058
Coachella, CA 92236

Subject: Transmittal of the Interim Determination by the Secretary of the Interior of the Quantity of Water Conserved by the Coachella Canal Lining Project and the Amount of Water Available for Allocation (Interim Determination)

Dear Mr. Robbins:

Enclosed is the Interim Determination, which is developed in accordance with Section 204 of the San Luis Rey Indian Water Rights Settlement Act, Public Law 100-675, and Article 5 of the Allocation Agreement Among the United States of America, The Metropolitan Water District of Southern California, Coachella Valley Water District, Imperial Irrigation District, San Diego County Water Authority, the La Jolla, Pala, Pauma, Rincon, and San Pasqual Bands of Mission Indians, the San Luis Rey River Indian Water Authority, the City of Escondido, and Vista Irrigation District.

If you have questions regarding the Interim Determination, please contact Ms. Ruth Thayer at 702-293-8426.

Sincerely,

Lorri Gray
Regional Director

Enclosure

United States Department of the Interior
BUREAU OF RECLAMATION
Boulder Canyon Operations Office
P.O. Box 61470
Boulder City, NV 89006-1470

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IN REPLY REFER TO:
BCOO-4200
WTR-4.03

JAN 3 0 2008

MEMORANDUM

To: Regional Director

From: ACTING FOR Terrance J. Fulp, Ph.D.
Area Manager Steven C. Hvinden

Subject: Interim Determination by the Secretary of the Interior of the Quantity of Water Conserved by the Coachella Canal Lining Project (CCLP) and the Amount of Water Available for Allocation (Interim Determination)

We are pleased to attach the Interim Determination for your signature. The determination is required by Title II (Section 204) of the San Luis Rey Indian Water Rights Settlement Act, Public Law 100-675 (Act), and Section 5.3 of the Allocation Agreement.[1] Section 204 of the Act provides that the Secretary is to determine the quantity of the water conserved by the works as a result of the CCLP, and further provides that the Secretary may revise such determination at reasonable intervals based on such information as the Secretary deems appropriate. Section 204 requires that the determination of the quantity of water conserved by the works and any revisions to such determination are to be made in consultation with the California Contractors[2] as defined in the Act.

In accordance with the Act and the Allocation Agreement, consultation with the California Contractors and Special Counsel for the San Luis Rey River Indian Water Authority was conducted on December 4, 2006. A second consultation was held on January 22, 2008. Agreement on the language of the Interim Determination was reached with the California Contractors during the consultation process. The Special Counsel for the San Luis Rey River Indian Water Authority confirmed its agreement with the language of the Interim Determination via email on January 23, 2008.

Your authority to sign the Interim Determination is provided by the attached memorandum. The memorandum was signed by Mr. Mark A. Limbaugh, Assistant Secretary - Water and Science,

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[1] Allocation Agreement Among the United States of America, The Metropolitan Water District of Southern California, Coachella Valley Water District, Imperial Irrigation District, San Diego County Water Authority, the La Jolla, Pala, Pauma, Rincon, and San Pasqual Bands of Mission Indians, the San Luis Rey River Indian Water Authority, the City of Escondido, and Vista Irrigation District, signed on October 10, 2003.

[2] California Contractors as defined by the Act includes the Palo Verde Irrigation District, the Imperial Irrigation District, the Coachella Valley Water District, and The Metropolitan Water District of Southern California.

on February 20, 2007. The Interim Determination has been reviewed for legal sufficiency by the Bureau of Reclamation's Field Solicitor.

Also attached to this package is the letter for transmitting the Interim Determination to the interested parties. If you have questions, please call Ms. Ruth Thayer at 293-8426.

Attachments

Interim Determination by the Secretary of the Interior of the Quantity of Water Conserved by the Coachella Canal Lining Project and the Amount of Water Available for Allocation

Introduction

Section 204 of the San Luis Rey Indian Water Rights Settlements Act, Public Law (P.L.) 100-675, provides that the Secretary of the Interior is to determine the quantity of water conserved by the works as a result of the Coachella Canal Lining Project (CCLP) and further provides that the Secretary may revise such determination at reasonable intervals based on such information as the Secretary deems appropriate. Section 204 requires that the determination of the quantity of water conserved by the works and any revisions to such determination are to be made in consultation with the California Contractors as defined in P.L. 100-675.

Section 5.3 of the Allocation Agreement[1] provides that the Secretary is to determine the amount of water available for allocation as a result of the CCLP in the event "a determination is made to construct a parallel canal and new siphons from Siphon 7 to Siphon 32 and should canal diversions not supply marsh/aquatic and desert riparian habitat." The amount of water available for allocation each year is the amount of water conserved by the CCLP minus the amount of water taken from the Coachella Canal and used for CCLP mitigation in that year. Section 5.3 of the Allocation Agreement provides for the determination to be made at the completion of construction of the CCLP. An interim determination of the amount of water available for allocation is now required because of:

1. The decision to construct a parallel canal and the use of water from other than canal diversions to supply at least a portion of the marsh/aquatic and desert riparian habitat.
2. Construction of the parallel canal progressing to the point that water is being conveyed.

This document is the Secretary's interim determination of the quantity of water conserved by the CCLP and the amount of water available for allocation from the CCLP (Secretarial Determination).

Background

The Conventional Lining Alternative is the preferred alternative in the CCLP Final Environmental Impact Statement/Environmental Impact Report (FEIS/EIR) Volume I,

[1] Allocation Agreement Among the United States of America, The Metropolitan Water District of Southern California, Coachella Valley Water District, Imperial Irrigation District, San Diego County Water Authority, the La Jolla, Pala, Pauma, Rincon, and San Pasqual Bands of Mission Indians, the San Luis Rey River Indian Water Authority, the City of Escondido, and Vista Irrigation District, signed on October 10, 2003.

published in April 2001, and is the alternative that is selected within the CCLP Record of Decision, Amendment Number 1. The FEIS/EIR allowed, however, for the final selection of the construction alternative to be based on construction bids. The final selection, based on the construction bids, was the Parallel Canal Alternative.

The new canal between Siphon 7 and Siphon 32 (including new siphons) was constructed parallel and immediately downslope of the unlined canal according to the Parallel Canal Alternative. As of the date of this Secretarial Determination, the newly constructed reach of 34.8 miles of parallel concrete-lined canal (including 26 new siphons) has been completed to the point of conveying water. The CCLP has not been transferred from a construction status to an Operation and Maintenance (O&M) status.

This interim Secretarial Determination is effective January 1, 2008, but is temporary in nature, pending the completion of the construction of the CCLP and transfer of the facility to an O&M status.

Measured Unlined Canal Seepage

The FEIS/EIR for constructing replacement concrete-lined canal sections of the Coachella Canal for the reach from Siphon 7 to Siphon 32 was published by the Bureau of Reclamation and the Coachella Valley Water District in April 2001. The FEIS/EIR Geohydrology Appendix was written by Reclamation and circulated to the public as a draft in 1990. The estimate of the existing unlined seepage losses was updated in 2001 to incorporate additional years of flow measurement record that were not available when the CCLP Draft Environmental Impact Statement/Environmental Impact Report (DEIS/EIR) was published in 1993. The text and results of the original analysis in the 1990 draft Geohydrology Appendix were unchanged in the FEIS/EIR.

Total seepage from the unlined canal of 32,350 acre-feet per year (af/yr) as estimated in the Geohydrology Appendix was based on the difference between the annual flow that was measured at the upstream and downstream ends of the Siphon 7-32 reach.

Measured Lined Canal Seepage

Seepage from the new concrete-lined canal after construction is estimated at 1,490 af/yr in the DEIS/EIR and 1,500 af/yr in the FEIS/EIR. Both estimates are based on an estimated rate of seepage through the concrete canal lining of 0.035 feet per day (ft/day) (0.035 cubic feet per square foot [cu ft/sq ft] of wetted lining).

Published research has confirmed 0.035 ft/day as a reasonable estimate of seepage from a concrete-lined canal. Kishel (1989) conducted a 10-day ponding test on Santa Rosa Canal in November 1987. The Santa Rosa Canal is a 56-mile long multi-user facility in the Central Arizona Project distribution system. Seepage averaged 0.036 cu ft/sq ft/day through the test.

Ponding tests in concrete lined canals are periodically conducted by the Imperial Irrigation District (Doyle, 2006). The Imperial Irrigation District conserves water for various water conservation programs, and post-project concrete lining ponding tests are used to estimate the volume of water conserved. Seepage rates in 1991 averaged 0.011 ft/day. In 1994, the seepage rate was 0.036 ft/day. The 1994 rate included both 1991 and 1994 data. In 2004, the average seepage loss rate in the lined canal was 0.032 ft/day.

The lined seepage estimate of 0.035 ft/day in the CCLP DEIS/EIR and FEIS/EIR is consistent with the ponding tests noted above.

In 2007, the Coachella Valley Water District attempted to secure measurements of the actual seepage from the lined canal but encountered water measurement problems. These water measurement problems were not resolved until late in 2007.

On October 30, 2007, Coachella Valley Water District and the San Diego County Water Authority entered into a Settlement Agreement on items of mutual interest relating to the CCLP. Exhibit B of the Settlement Agreement Between the Coachella Valley Water District and the San Diego County Water Authority titled "Allocation of Water Conserved By The Coachella Canal Lining Project" designates the amount of water conserved by the CCLP to be 27,850 acre-feet during calendar years 2007 and 2008. The agreed upon value is an acknowledgement by both parties that accurate quantification of the CCLP conserved water could not be accomplished during calendar year 2007 due to the water flow measurement problems that were resolved late in 2007.

Discussion

The estimate of 0.035 ft/day for seepage through the concrete lining of the Coachella Canal between siphons 7 and 32 is the appropriate value for estimating the water conserved by the newly lined reach. Ponding tests in lined canals in the desert southwest document seepage rates between 0.032 ft/day and 0.036 ft/day. The initial seepage rate from the recently lined reach may be higher than 0.035 ft/day but the rate will decrease due to physical clogging of pores and possibly continued hydration. The concrete mix design used in the newly lined reach of the Coachella Canal cannot be compared to the mix design used in the published ponding tests because the exact mix design used in the ponding tests is unknown.

Seepage from the lined portion of the Coachella Canal is estimated at 1,500 af/yr in the FEIS/EIR. This is based on an estimate of 0.035 ft/day. Calculation of seepage amounts for periods of less than 1 year should be based on 1,500 af/yr. Based on the analysis conducted for the FEIS/EIR and the consideration that the estimated seepage rate in the newly concrete-lined portion of the Coachella Canal is 1,500 af/yr, the annual amount of water to be conserved by the CCLP is estimated to be 30,850 af/yr.

In the absence of reliable flow measurement data due to problems that were corrected in late 2007, Reclamation believes the amount of water agreed to in the Settlement

Agreement for 2007 and 2008 of 27,850 acre-feet to be a reasonable estimate of the amount of water conserved by the CCLP in those years.

Interim Determination of the Water Conserved by the Works of the CCLP and Available for Allocation

After consultation with the California Contractors, and in accordance with Section 204 of P.L. 100-675 and Section 5.3 of the Allocation Agreement, the quantity of water conserved by the CCLP and the amount of water available for allocation from the CCLP are determined as follows:

1. The quantity of water conserved by the CCLP through the term of the Allocation Agreement is determined to be 30,850 acre-feet per year, except that for calendar years 2007 and 2008, the quantity of water conserved by the CCLP is determined to be 27,850 acre-feet per year. In accordance with Section 204 of P.L. 100-675, the Secretary, after consultation with California Contractors, may revise this determination at reasonable intervals based on such information as the Secretary deems appropriate. In accordance with Section 5.3 of the Allocation Agreement, the Secretary will, at a minimum, revisit this determination at the completion of construction of the CCLP.

2. The amount of water available for allocation from the CCLP each year shall be the quantity of water conserved by the CCLP minus the amount of water taken from the Coachella Canal that is used for CCLP mitigation in that year. For example, if the quantity of conserved water in a given year is 30,850 acre-feet and the amount of water taken from the canal that year for CCLP mitigation is 1,300 acre-feet, the amount of water available for allocation shall be 29,550 acre-feet.

3. The amount of water allocated to the San Diego County Water Authority each year shall be the amount of water available for allocation from the CCLP minus the amount delivered for the benefit of the San Luis Rey Settlement parties pursuant to Article 7 of the Allocation Agreement, and minus the amount, if any, delivered to the Imperial Irrigation District under Article 9 of the Allocation Agreement.

4. Notwithstanding the above, of the quantity of water conserved by the CCLP each year, the Secretary shall allocate each year at least 4,500 acre-feet for the benefit of the San Luis Rey Settlement parties and, of the remainder, at least 21,500 acre-feet to the San Diego County Water Authority, minus the amount, if any, delivered in excess of 4,500 acre-feet for the benefit of the San Luis Rey Settlement parties pursuant to Article 7 of the Allocation Agreement, and minus the amount, if any, delivered to the Imperial Irrigation District under Article 9 of the Allocation Agreement.

5. In determining water allocations for the calendar year, the Coachella Canal Lining Project Operations, Maintenance, and Repair Coordinating Committee[2] shall, by December 1 of that year, report to Reclamation:

   a. The amount of water used from the Coachella Canal for CCLP mitigation purposes.
   b. An estimate of the amount of water from the Coachella Canal needed for CCLP mitigation purposes for the remainder of that calendar year.

6. Reclamation shall review the amount of water used for CCLP mitigation and the estimate of the amount of mitigation water needed for the remainder of the calendar year, and make any appropriate adjustment to the estimate and the consequent amount of water available for allocation that year. The review by Reclamation shall be conducted in consultation with the Coachella Valley Water District and the entity or entities whose allocation of water could be affected by such an adjustment.

Lorri Gray
Regional Director

Date: January 31, 2008

[2] The Coachella Canal Lining Project Operations, Maintenance, and Repair Coordinating Committee is created by Section 12.1 of the Allocation Agreement.

References

Doyle, V. *Post-Project Concrete Lining Seepage Analysis.* Paper Number: 062263 presented at the American Society of Agricultural and Biological Engineers Meeting. July 2006.

Kishel, J. Seepage and Contraction Joints in Concrete Canal Linings. American Society of Civil Engineers. *Journal of Irrigation and Drainage Engineering,* Vol. 115, No. 3, Paper No. 23571. June 1989.

U.S. Bureau of Reclamation. 2000. Coachella Canal Lining Project, Revised and Updated Draft Environmental Impact Statement/Environmental Impact Report. September 2000.

U.S. Bureau of Reclamation. 2001. Coachella Canal Lining Project, Final Environmental Impact Statement/Environmental Impact Report, Volume I. April 2001.

United States Department of the Interior

BUREAU OF RECLAMATION
Lower Colorado Regional Office
P.O. Box 61470
Boulder City, NV 89006-1470

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IN REPLY REFER TO:

JAN 3 0 2007

BCOO-4200
PRJ-15.00

MEMORANDUM

To: Assistant Secretary – Water and Science

Through: Robert W. Johnson
Commissioner

FEB 15 2007

From: Larry Walkoviak
Acting Regional Director

Subject: Request for Delegation of Authority to Make Determinations in Connection with the Coachella Canal Lining Project

The Lower Colorado Region requests a delegation of authority (1) to make a determination, as required by statute and contract, of the quantity of water conserved by the Coachella Canal Lining Project, (2) to review and, as appropriate, approve and accept the quality of construction in a Final Notice of Completion, and (3) to carry out any further statutory or contractual responsibilities of the Secretary of the Interior (Secretary) in connection with the Coachella Canal Lining Project. Water conserved by the Coachella Canal Lining Project is an essential component of the Colorado River Water Delivery Agreement, executed by the Secretary of the Interior on October 10, 2003.

The Assistant Secretary, Water and Science, has the delegated authority over "development and conservation of the Nation's water supply" as well as exercising "Secretarial direction and supervision" over the Bureau of Reclamation, and may delegate program authority to subordinate officials (see 109 DM 1.1, 200 DM 1.2, 109 DM 5, and 200 DM 3).

Proposed Coachella Canal Lining Project Determination of Amount of Conserved Water

The Coachella Canal Lining Project is authorized by Title II of Public Law 100-675 (Title II) and is the subject of the Allocation Agreement Among the United States of America, The Metropolitan Water District of Southern California, Coachella Valley Water District, Imperial Irrigation District, San Diego County Water Authority, the La Jolla, Pala, Pauma, Rincon, and San Pasqual Bands of Mission Indians, the San Luis Rey River Indian Water Authority, the City of Escondido, and Vista Irrigation District, executed by the Secretary on October 10, 2003 (Allocation Agreement). Both Title II and the Allocation Agreement require the Secretary to determine the quantity of water conserved by the Coachella Canal Lining Project.

Section 203 of Title II states in pertinent part:

> The Secretary, in order to reduce the seepage of water, is authorized to - (1) construct a new lined canal or to line the previously unlined portions of the All American Canal from the vicinity of Pilot Knob to Drop 4 and its Coachella Branch from Siphon 7 to Siphon 32, or construct seepage recovery facilities in the vicinity of Pilot Knob to Drop 4 .... (Emphasis added.)

Section 204 of Title II states that:

> The Secretary shall determine the quantity of water conserved by the works and may revise such determination at reasonable intervals based on such information as the Secretary deems appropriate. Such initial determination and subsequent revision shall be made in consultation with the California Contractors.

Section 5.3 of the Allocation Agreement states in pertinent part:

> In accordance with the Coachella Canal Lining Project Final Environmental Impact Statement/Environmental Impact Report, the Secretary has determined that 26,000 acre-feet of Colorado River water is available per Calendar Year for allocation upon completion of construction of the Coachella Canal Lining Project, if the Project as completed lines the canal from Siphon 7 to Siphon 14 and from Siphon 15 to Siphon 32. Should a determination be made to construct a parallel canal and new siphons from Siphon 7 to Siphon 32 and should canal diversions not supply marsh/aquatic and desert riparian habitat, the Secretary will determine the amount of water available for allocation upon completion of construction of the Coachella Canal Lining Project. The Parties recognize that such determination could result in a value greater or less than 26,000 acre-feet per Calendar Year. (Emphasis added.)

Section 5.6 of the Allocation Agreement further provides that in a year in which a shortage condition has been declared for the Colorado River "the Secretary shall determine, in consultation with the Parties, whether and to what extent the amount of water to be made available for allocation as a result of the Projects is thereby reduced." Finally, Section 5.7 of the Allocation Agreement provides that after the termination of the Quantification Settlement Agreement "the Secretary shall determine the quantity of water available for allocation as a result of the Projects in accordance with Title II, or as otherwise agreed upon by the Parties."

The decision was made to construct a parallel canal for the Coachella Canal Lining Project, rather than to line portions of the existing canal. The Lower Colorado Region now requests authority to make the determination as to the quantity of water conserved by the parallel canal, in consultation with California agencies as required by statute, and to make future determinations of the quantity of conserved water as circumstances require.

Additional Determinations in Connection with the Coachella Canal Lining Project
Section 203(c) of Title II authorized the Secretary to enter into a construction contract and to make certain determinations in connection with the Coachella Canal Lining Project. The Agreement Among the United States Department of the Interior Bureau of Reclamation, the Coachella Valley Water District, and the San Diego County Water Authority for the Construction of the Coachella Canal Lining Project Pursuant to Title II of Public Law 100-675, dated October 19, 2004, (Construction Contract) requires that Reclamation make certain Project determinations to carry out the Secretary's responsibilities under Title II, including issuing a Notice of Completion for the Coachella Canal Lining Project.

This proposed delegation would be effective immediately upon your approval and, unless rescinded, would remain in effect for any subsequent determinations relating to the Secretary's Title II responsibilities in connection with the Coachella Canal Lining Project. If you approve of the proposed delegation of authority, please sign this request and provide a copy for our Regional files. If you have questions, the point of contact is Ms. Jayne Harkins at 702-293-8411.

Approve:

Mark A. Limbaugh
Assistant Secretary – Water and Science

2/20/07
Date