INTERNATIONAL BOUNDARY AND WATER COMMISSION
UNITED STATES AND MEXICO.

El Paso, Texas
January 19, 2017

MINUTE NO. 322

EXTENSION OF THE TEMPORARY EMERGENCY DELIVERY OF COLORADO RIVER WATER FOR USE IN TIJUANA, BAJA CALIFORNIA

The Commission met at the headquarters offices of the U.S. Section in El Paso, Texas on January 19, 2017 at 2:00 p.m. to consider the request by the Baja California State Water Commission (CEA) to extend for an additional five years the emergency delivery to the city of Tijuana, Baja California, through the Otay Mesa International Connection, of a portion of the Colorado River waters allotted to Mexico under the "United States-Mexico Treaty for Utilization of Waters of the Colorado and Tijuana Rivers and of the Rio Grande," signed February 3, 1944 (hereinafter 1944 Water Treaty), based on the principles established in International Boundary and Water Commission Minute No. 240, entitled "Emergency Deliveries of Colorado River Waters for Use in Tijuana," dated June 13, 1972, as subsequently amended and extended, and most recently in Commission Minute No. 314, entitled "Extension of the Temporary Emergency Delivery of Colorado River Water for Use in Tijuana, Baja California," dated November 14, 2008, which expired on November 9, 2013.

The Commissioners considered the request presented by the CEA and by the State Public Utility Commission of Tijuana (CESPT) to renew the cooperation most recently agreed in Minute No. 314 in light of a potential emergency that could affect the region's water supply. The Commissioners observed that the connection constructed to enable emergency water deliveries to Mexico at the international land boundary at Otay Mesa-Mesa de Otay, under Minute No. 240 and its subsequent amendments and modifications, was rehabilitated at Mexico's expense so that the emergency deliveries could be reinitiated and continued, also at Mexico's expense. The Commissioners took note of the fact that CESPT covered the costs for repair and replacement of valves owned and operated by the Otay Water District (OWD) required solely for the purposes of effecting water deliveries to Tijuana.

The United States Commissioner informed the Mexican Commissioner that the United States Bureau of Reclamation (Reclamation) and the California state agencies: San Diego County Water Authority (SDCWA), the Metropolitan Water District of Southern California (MWD), and the OWD, which own and operate the storage, conveyance, and distribution system from Parker Dam on the Colorado River to the OWD, are able and willing, in principle, to make the emergency water deliveries to the city of Tijuana, subject to any operational constraints that could affect the volumes and time frames, in order to support the water supply during emergency conditions, beginning on the date this Minute enters into force and concluding on January 19, 2022.

The Commissioners reviewed the document "Updated Joint Report of the Principal Engineers to Facilitate Emergency Delivery of Colorado River Water for Use in Tijuana, Baja California," signed on January 18, 2017, which is attached and forms an integral part of this Minute, and they agree that the terms and conditions recommended therein to carry out the emergency deliveries are appropriate and have been duly updated, including Table #1 titled

"Charges to Mexico for Emergency Deliveries for Tijuana of a Portion of Mexico's 1944 Water Treaty Allotment Effective 2017," which has been revised to reflect the current cost of deliveries.

Based on the above, the Commissioners adopted the following resolutions, subject to the approval of both Governments:

1. That the Government of the United States and the Government of Mexico adopt a new emergency arrangement from the date this Minute enters into force through January 19, 2022, to allow for the delivery at the international land boundary between San Diego County, California and Tijuana, Baja California of a portion of the Colorado River waters allotted to Mexico under the 1944 Water Treaty, in a manner that does not affect the deliveries or releases of water of the Colorado River system to United States users.

2. That delivery of water under this arrangement is subject to annual authorization by means of an exchange of diplomatic notes between the two Governments, which will be initiated by the Government of Mexico by no later than August 1 of the year prior to the one-year delivery period, except for the initial delivery period when the exchange of diplomatic notes will be initiated by the Government of Mexico 45 days prior to the delivery start date. The last deliveries undertaken through this arrangement must be completed by January 19, 2022.

3. That the water deliveries will be made and accounted for in accordance with the "Updated Joint Report of the Principal Engineers to Facilitate Emergency Delivery of Colorado River Water for Use in Tijuana, Baja California," signed by U.S. Section Principal Engineer Carlos Peña and Mexican Section Principal Engineer Luis A. Rascon Mendoza, on January 18, 2017, which is attached and forms an integral part of this Minute.

4. That the Government of Mexico will assure that, in advance of each quarterly delivery, payment is made for any and all financial costs and energy reserve funds in accordance with Part B of the Joint Report cited in resolution 3 above.

5. That the Government of Mexico will assure that payment for Planned Projects and Emergency Repairs is made in accordance with Part B of the Joint Report cited in resolution 3 above.

6. That all activities undertaken pursuant to this Minute will be subject to the availability of funds, resources, and corresponding personnel, as well as to applicable laws and regulations in each country.

7. That this Minute will enter into force upon notification of approval by the Government of the United States and the Government of the United Mexican States through the respective Section of the Commission.

The meeting was adjourned.

Edward Drusina
United States Commissioner

Roberto F. Salmón Castelo
Mexican Commissioner

Sally E. Spener
United States Section Secretary

José de Jesús Luévano Grano
Mexican Section Secretary

INTERNATIONAL BOUNDARY AND WATER COMMISSION
UNITED STATES AND MEXICO

Ciudad Juarez, Chihuahua
January 18, 2017

UPDATED JOINT REPORT OF THE PRINCIPAL ENGINEERS
TO FACILITATE EMERGENCY DELIVERY OF COLORADO RIVER WATER
FOR USE IN TIJUANA, BAJA CALIFORNIA

To the Honorable Commissioners
International Boundary and Water Commission
United States and Mexico
El Paso, Texas and Ciudad Juarez, Chihuahua

Sirs:

Pursuant to your instructions, we respectfully submit this Joint Report in furtherance of the request submitted by the Baja California State Water Commission (CEA) and the State Public Utility Commission of Tijuana (CESPT) to renew the cooperation most recently agreed upon in Commission Minute No. 314 in order to make emergency deliveries through the aqueduct system in southern California of a portion of the Colorado River waters allotted to Mexico by Article 10(a) of the "United States-Mexico Treaty for Utilization of Waters of the Colorado and Tijuana Rivers and of the Rio Grande," signed February 3, 1944 (1944 Water Treaty), in anticipation of a potential emergency that could affect the region's water supply.

We note that the Bureau of Reclamation (hereinafter referred to as "Reclamation") and three California agencies have previously cooperated in providing emergency delivery of Colorado River waters to the City of Tijuana prior to the construction of Mexico's Colorado River Aqueduct in Baja California during the 1970s. The deliveries were made through the facilities of the Metropolitan Water District of Southern California (MWD), San Diego County Water Authority (SDCWA), and Otay Water District (OWD) (collectively, "California Agencies") through an extension of the OWD water conveyance system, constructed at Mexico's expense, for the emergency delivery of water to Tijuana at the international boundary at Otay Mesa-Mesa de Otay. Reclamation and the California Agencies have expressed a willingness to do so again, subject to the availability of capacity in their storage, conveyance, and distribution systems, and reimbursement of all costs for conveyance of the water deliveries and construction, repair, and maintenance of improvements to the OWD connection system.

We note the information from the California Agencies that the base cost for the deliveries would be equivalent to that charged to users in southern California in the United States for similar deliveries in that area. An advance payment will be required, which said agencies will determine quarterly, equivalent to the cost for three months of emergency deliveries.

Furthermore, we observe that improvements have been made to the OWD water conveyance system which have been paid by CESPT. The improvements are owned and will be operated by OWD for the purpose of effecting water deliveries to Tijuana. Purchase, installation, construction, repair or replacement of OWD equipment or facilities as may be required for the purpose of making emergency water deliveries to Tijuana or for the purpose of the security of such facilities will be paid by the government of Mexico.

Considering the responsibilities of the International Boundary and Water Commission (IBWC) in the application of the 1944 Water Treaty, particularly the provision that the IBWC maintain a record of waters belonging to each country, we note the information provided by the United States Section that it is feasible to divert, on an emergency basis, a portion of Mexico's Treaty Waters through the facilities at Lake Havasu formed by Parker Dam on the Colorado River, located 169 miles (272 kilometers) upstream of the Northerly International Boundary and deliver the waters, less conveyance losses charged to Mexico, to the international boundary at Otay Mesa. The meter requested by the California Agencies has been installed at the Otay Mesa connection facilities and will support the IBWC's water accounting. We observe that the impact, both in volume and quality, of the resultant reduction in treaty waters delivered to Mexico at the Northerly International Boundary would be insignificant.

We reviewed the requirements of the IBWC and of Reclamation and the California Agencies for making the water deliveries, as well as the needs of CESPT to request and receive the waters. We observe that to ensure these requirements are met, the United States has concluded the necessary arrangements with Reclamation and the California Agencies under laws applicable in the United States and that Mexico in turn has concluded the corresponding arrangements with the State of Baja California under applicable laws in Mexico. The United States Section will coordinate through SDCWA the actions of the California Agencies and the Mexican Section will coordinate through CESPT the actions of Baja California.

Based on these arrangements, we propose the following procedure for making the emergency deliveries:

A. Scheduling Emergency Water Deliveries

1. For the initial emergency delivery of water under the provisions of this Joint Report, the Mexican Section will submit to the United States Section a schedule of the requested emergency water deliveries broken down by month at least 45 days prior to the delivery start date. For any subsequent year that may be authorized by means of an exchange of diplomatic notes, an annual schedule will be submitted by September 15 of the preceding year. These water amounts will be subject to the availability of delivery capacity of the California Agencies and, in any event, should not exceed the capacity of the inter-connection facility of approximately 1,200 acre-feet (1.5 million cubic meters) per month.
2. The United States Section will consult with SDCWA and will respond by October 15, or in the case of the initial request, within 30 days after receipt of the delivery request, concerning the availability of capacity and any limitations for the delivery to the city of Tijuana of the volumes of water requested and scheduled during the initial period. Also, the United States Section will ascertain from SDCWA whether and to what extent a limitation of deliveries is foreseen during subsequent annual periods.
3. Subject to annual authorization through an exchange of diplomatic notes between the United States and Mexican governments, the United States Section, upon receipt of the advance payment in conformance with Part B of this Joint Report, will assure that the deliveries are made within the delivery capacity and limitations mentioned in the previous paragraph unless service interruptions or other emergencies beyond the United States Section's control cause temporary suspension of deliveries. The deliveries to Tijuana at the international boundary will consist of the requested volumes. The volume of water charged to Mexico's 1944 Water Treaty allotment will consist of the delivered volume plus the conveyance losses in accordance with the attached Table #1, "Charges to Mexico for Emergency Deliveries for Tijuana of a Portion of Mexico's 1944 Treaty Allotment Effective 2017," and any subsequent updates. For this purpose, for any month in which deliveries are made to Mexico, a local work group, as established in Part C of this Joint Report, will

certify readings taken at the meter installed for this purpose at Otay Mesa at the international boundary on the last day of that month's deliveries to Mexico.

4. The Mexican Section will assure receipt of these emergency deliveries in a continuous manner, consistent with the requested and agreed-to amounts, without causing an interruption in water deliveries at the international boundary.
5. During any year in which water deliveries are made, the Mexican Section may request unanticipated additional or reduced volumes of waters allotted to Mexico under the 1944 Water Treaty, needed by the CESPT for subsequent periods. The U.S. Section, upon consultation with SDCWA, will advise the Mexican Section as soon as possible if capacity is available and if there are any limitations in making the additional deliveries. The U.S. Section will comply with an appropriate request for reduction, unless it is determined that such reduction would result in financial loss to one or more of the California Agencies. In the event of a reduction requested by the Mexican Section, any payments previously made will be retained and applied to payment for future deliveries. Except in extraordinary circumstances, the Mexican Section will not submit requests for unanticipated additions or reductions in emergency deliveries for any period beyond the agreed annual delivery schedule.
6. In the event that the California Agencies are not able to make the water deliveries because of capacity limitations, service interruptions, or other emergencies, the United States Section will immediately notify the Mexican Section before any suspension of deliveries is implemented. In the event that the water supply is suspended for reasons other than those mentioned above, the United States Section will reimburse funds equivalent to the cost of the suspended deliveries that may have been paid in advance.

B. Funding Emergency Water Deliveries

1. The total cost for emergency water deliveries to Tijuana consists of the following three elements:

a. Base Cost of Deliveries: The base expenses incurred by the California Agencies include, but are not limited to, charges for using diversion and conveyance works and pumping facilities, water treatment costs, average monthly energy or loss of energy costs, including costs of foregone sales and exchanges. This element will be determined by October 15 of the preceding year and will remain constant until changed by one or more of the California Agencies in accordance with rates charged to users in southern California for similar services, except for charges associated with the cost of energy which will be updated for each quarterly period in which deliveries are made. In the case of initial deliveries to Mexico, within 30 days of receipt of the schedule of requests, the U.S. Section will provide a Schedule of Charges to Mexico for deliveries through the end of the initial delivery period or quarter. The Base Cost element will be equivalent to costs for similar deliveries to users in southern California in the United States in the area.

b. Cost of Planned Projects and Emergency Repairs: Planned projects and emergency works on the equipment or facilities used for the purpose of delivering waters to Tijuana may be needed from time to time for operational, safety or security purposes. A Planned Project and Emergency Repair Reserve Fund will be established for this element. The amount of this fund for the initial delivery period and for every delivery year thereafter will be seventy thousand dollars ($70,000.00). In the case of initial deliveries to Mexico, the amount to be deposited into the Planned Project and Emergency Repair Reserve Fund will be included in the Schedule of Charges referenced in Section B.1.a above.

c. Cost of Energy Fluctuation: The cost of energy may escalate during the effective period of this Joint Report. As such, an Energy Reserve Fund will be established to cover additional charges due to fluctuations in energy costs. No deposit is required into this account unless there is an extraordinary spike in the energy costs. During any quarter when deliveries are scheduled and once the deliveries are scheduled, if there is an extraordinary spike in energy costs, a deposit of a dollar amount that is based on the per acre foot estimate of requested volume of deliveries and the actual increased energy costs, will be deposited into an

Energy Reserve Fund prior to the beginning of each quarterly delivery period. This amount may be between zero dollars ($0.00) and five hundred thousand dollars ($500,000.00). Mexico may choose not to deposit the requested amount into the Energy Reserve Fund and the United States may cease delivery of water until the requested amount is deposited into the Energy Reserve Fund account.

2. The Mexican Section will assure the payment by CESPT for the emergency water deliveries to Tijuana in accordance with the following arrangement:

    a. The base cost for emergency water deliveries to Tijuana will be based on the volume of water measured at the Otay Mesa metering facility at the international boundary, plus system conveyance losses through the various southern California conveyance systems from the diversion point near Parker Dam to Otay Mesa at the international boundary, and will be equivalent to costs for similar deliveries to users in southern California in the United States in said area. For the initial water deliveries made in calendar year 2017, the cost is estimated in accordance with the Schedule of Charges to Mexico in the attached Table # 1. Delivery costs for any subsequent year that may be authorized by means of an exchange of diplomatic notes will be estimated by October 15 of the year prior to deliveries.

    b. Before the beginning of each quarterly delivery period, payments will be made to the United States Section equal to the base cost for three months of water deliveries, a minimum of 15 days prior to the beginning of the corresponding quarter. Withdrawals will be made monthly as described in this Section B.3.

    c. Additionally, before the beginning of each calendar year, an annual payment for planned projects and emergency repairs will be made by the Mexican Section to the United States Section, if needed to maintain a balance of seventy thousand dollars ($70,000.00) in the Planned Project and Emergency Repair Reserve Fund. Upon receipt of a request for emergency deliveries for Tijuana, OWD will perform meter calibration of the inter-connection facility in order to guarantee accuracy in the water accounting to Mexico. For any cost incurred for this work, OWD will be reimbursed from the Planned Project and Emergency Repair Reserve Fund.

Any other planned projects will proceed upon authorization by CESPT. Emergency repairs will proceed upon authorization by CESPT, when feasible. In the event that the Planned Project and Emergency Repair Reserve Fund is depleted after commencement of a planned project or emergency repair, additional funds will be provided by Mexico to complete the project and replenish the reserves to the amount determined for that calendar year. In the event that the cost of a planned project or emergency repair exceeds the available funds, CESPT will provide additional funds within 15 days after notification by the United States Section. For the initial delivery of water, payment for the Planned Project and Emergency Repair Reserve Fund will be made a minimum of 15 days prior to commencement of deliveries.

d. When the United States Section requires funds to cover potential fluctuations in energy costs, additional payments will be made by the Mexican Section to the United States Section before the quarterly delivery period begins in order to maintain an Energy Reserve Fund up to five hundred thousand dollars ($500,000.00). The amount will be as determined by the California Agencies based upon the per acre foot estimate of the volume of water requested and actual increased energy costs that have undergone an extraordinary spike in the State of California. In the event that the Energy Reserve Fund is depleted or forecasted to be depleted in any quarter, additional payments shall be made by the Mexican Section to maintain the Energy Reserve Fund at the estimated level for the next quarter.

e. In the event unanticipated additional deliveries are requested, the United States Section will provide to Mexico a Schedule of Charges and any other costs for such additional deliveries and any additional request for Energy Reserve Funds and the Mexican Section will provide funds from CESPT to cover the cost for the additional water deliveries within 15 days after notification of acceptance by the United States Section. If, due to extraordinary circumstances and at the sole discretion of the California Agencies, additional emergency deliveries for Tijuana are made prior to receiving payment for additional deliveries, the Mexican

Section shall provide payment for such deliveries immediately. In the event payments for additional deliveries are not made in the time frames described in this Section B.2.e., any available funds that were previously provided will be used to cover the costs associated with the additional emergency deliveries.

f. Nonpayment of the advance quarterly payment for the service may be cause for suspension of the water deliveries. Nonpayment of funds after 90 days' notice of failure to timely provide funds may be cause for termination of deliveries.

g. Upon termination of the Emergency Delivery Agreement, the materials, equipment, and facilities within OWD constructed pursuant to this agreement and considered by OWD to be integral to ongoing operations will become or remain the property of OWD. Additionally, payment will be made by the Mexican Section to the United States Section for removing non-integral materials, equipment and facilities, and restoring OWD facilities to the condition which would exist if the structures to facilitate Emergency Deliveries to Tijuana had not been constructed.

3. The United States Section will administer the funds received from the Mexican Section in the following manner:

   a. The United States Section will provide the funds to the SDCWA for deposit into an interest-bearing bank account in which the interest income generated will be reinvested in the same account. The interest earned on the account will be based on the average monthly interest rate as reported on the SDCWA's Monthly Treasurer's Report for the SDCWA Operating Fund and will be calculated at the end of each month. The SDCWA will provide to the IBWC through the United States Section a quarterly statement for quarters when no deliveries are made and a monthly report for periods when deliveries are made, including a detailed breakdown of the costs for each monthly delivery, the total funds withdrawn from Mexico's account, the interest income generated in the account, and the balance in the account. IBWC may request any clarifications to the monthly report from SDCWA within 60 days. If no clarifications are requested by IBWC

within 60 days, it shall be concluded that IBWC is in agreement with the information contained in the monthly report.

b. Upon termination of this agreement on emergency deliveries, the United States Section will provide to the Mexican Section a final balance sheet prepared by the SDCWA covering actual costs for the delivered waters. The Mexican Section will submit its approval or objections to the final balance sheet within 60 days. If there are remaining funds plus interest, these will be reimbursed to Mexico through the IBWC. If the Mexican funds are not sufficient to cover the final costs, including the costs of restoration of the OWD facilities in accordance with Section B.2.g above, Mexico will provide additional funds within 15 days of notice from the United States Section.

C. Coordination

The IBWC will form a Local Work Group which will include at least one representative from each water agency in the United States and Mexico involved in this matter. Those agencies are defined to include IBWC (United States and Mexican Sections), SDCWA, MWD, OWD, Mexico's National Water Commission, CEA and CESPT. For any month in which water is delivered to Mexico, OWD, CESPT, and IBWC, along with any other interested member of the work group, will meet at least once a month to verify the readings of the water delivered to Mexico at the boundary, exchange information, address unforeseen situations and review reports on procedures for deliveries and handling of funds. When it is deemed necessary, the IBWC may also call a meeting of the aforementioned group to receive reports on the operations involved in the above procedures, the handling of funds received from Mexico, to exchange information, and to jointly address any unforeseen situation which may arise regarding this matter.

D. Water Deliveries Monitoring

The IBWC will account for the Colorado River waters delivered under this emergency delivery arrangement, including system conveyance losses, and charge them against Mexico's allotment of Colorado River waters provided for in Article 10(a) of the 1944 Water Treaty following the provisions in Article 15B of the said Treaty for quantities delivered at mutually agreed points on

the land boundary. During the period of emergency deliveries to Tijuana, the salinity differential between Imperial Dam and the Northerly International Boundary, described in Resolution 1.a of Minute No. 242, will be calculated as if the water delivered for use in the city of Tijuana were delivered from Imperial Dam at the Northerly International Boundary.

Recommendations

Based on the above, we respectfully recommend:

That the procedures described in this report for providing emergency delivery of a portion of Mexico's Colorado River water for use in the Tijuana area be approved.

Carlos Peña, Jr.
Principal Engineer
United States Section

Luis Antonio Rascon Mendoza
Principal Engineer
Mexican Section

INTERNATIONAL BOUNDARY AND WATER COMMISSION
UNITED STATES AND MEXICO

TABLE # 1
Charges to Mexico for Emergency Deliveries for Tijuana of a Portion of Mexico's 1944 Water Treaty Allotment Effective 2017[a]

		On the basis of total water handled including losses at unit charge for total water
	Delivery to Mexico	
1.	Water delivered to Mexico at international boundary near Tijuana as measured at Service Connection SD-TJ (acre-feet)	
	Payment to Otay Water District (OWD)	
2.	OWD system loss at 3.0% of Line 1 (acre-feet) [b]	
3.	OWD total deliveries (Line 1 + Line 2) (acre-feet)	
4.	Unit payment due OWD for delivery charges and other expenses ($/acre-foot)	$ 75.54
5.	Total payment to OWD (Line 3 x Line 4) ($)	
	Payment to the San Diego County Water Authority (Authority)	
6.	Water delivered by Authority for Mexico; same as Line 3 (acre-feet)	
7.	Authority system loss at 1.0% of Line 3 (acre-feet) [b]	
8.	Authority total deliveries (Line 6 + Line 7) (acre-feet)	
9.	Unit payment due Authority for delivery charges and other expenses ($/acre-foot). (Unit charge is Authority's Transportation Rate.)	$ 110.00
10.	Total payment to Authority (Line 8 x Line 9) ($)	
	Payment to Metropolitan Water District of Southern California (Metropolitan)	
11.	Water delivered by Metropolitan for Mexico; same as Line 8 (acre-feet)	
12.	Metropolitan system loss at 3.6% of Line 8 (acre-feet) [b]	
13.	Metropolitan total deliveries (Line 11 + Line 12) (acre-feet)	
14.	Unit payment due Metropolitan for use of existing diversion and conveyance works, water treatment, and other expenses. (Unit charge includes Metropolitan's System Access Rate, Water Stewardship Rate and Treatment Surcharge, as may be adjusted for Metropolitan member agencies) ($/acre-foot)	$ 654.00
15.	Unit payment due Metropolitan for electric energy, determined as the average cost ($/megawatt-hour), including foregone sales and exchanges, incurred by Metropolitan for the incremental amount of water for the month that the water was delivered, including pumping costs, loss of Metropolitan's share of energy generated at Parker Dam Power Plant, and any other Colorado River Aqueduct energy cost or loss of energy that results from Emergency Deliveries ($/acre-foot).	$ 107.00
16.	Total payment to Metropolitan ((Line 13 x Line 14) + (Line 13 x Line 15)) ($)	
17.	**Total Charge to Mexico (Line 5 + Line 10 + Line 16)**	

[a]The costs contained in Table #1 are as of 2017 and are subject to change.
[b] Portion of Treaty Water diverted by Metropolitan at Lake Havasu.