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STATE WATER RESOURCES CONTROL BOARD

STATE OF CALIFORNIA

IMPERIAL IRRIGATION
DISTRICT and SAN DIEGO
COUNTY WATER AUTHORITY,

Petitioners.

APPENDIX (VOLUME 1) TO
PETITION FOR APPROVAL OF
LONG-TERM CONSERVED WATER
TRANSFER AGREEMENT AND CHANGE
IN POINT OF DIVERSION AND
PLACE OF USE
IID APPENDIX OF EXHIBITS

VOL. 1

1 Agreement for Transfer of Conserved Water by and between Imperial Irrigation District, a California Irrigation District and San Diego County Water Authority, a California County Water Authority

2 Seven-Party Water Agreement of August 18, 1931

3 Applications by Imperial Irrigation District to Appropriate Unappropriated Water, and Permits Thereon

4 United States and Imperial Irrigation District Contract dated December 1, 1932

5 Agreement of Compromise Between Imperial Irrigation District and Coachella Valley County Water District dated February 14, 1934

6 State of California State Water Resources Control Board Decision 1600

VOL. 2

7 State of California State Water Resources Control Board Order 88-20

8 March 28, 1989 Letter from Walter Pettit of the State Water Resources Control Board to Charles Shreves of the Imperial Irrigation District

9 June 29, 1998 letter from SWRCB to IID re conservation program compliance.


11 1996 Memorandum of Understanding Regarding Efficient Water Management Practices

12 Tentative Decision, Statement of Decision and Judgment in San Francisco Superior Court Action

13 Notices of Exemption

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by and between
IMPERIAL IRRIGATION DISTRICT,
a California irrigation district

("IID"), and

SAN DIEGO COUNTY WATER AUTHORITY,
a California county water authority

("Authority")

Dated: April 29, 1998
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APPENDICES

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AGREEMENT BETWEEN IMPERIAL IRRIGATION DISTRICT
AND SAN DIEGO COUNTY WATER AUTHORITY
FOR TRANSFER OF CONSERVED WATER

THIS AGREEMENT FOR TRANSFER OF CONSERVED WATER ("Agreement") is made and entered into by IMPERIAL IRRIGATION DISTRICT, a California irrigation district ("IID"), and SAN DIEGO COUNTY WATER AUTHORITY, a California county water authority ("Authority"), as of April___, 1998. The IID and the Authority are sometimes referred to individually as a "Party" and collectively as the "Parties."

RECITALS:

A. The IID is an irrigation district organized under the California Irrigation District Law, codified at § 20500 et seq. of the California Water Code, and delivers Colorado River water in Imperial County, California for irrigation and domestic purposes.

B. The IID's senior water rights (the "IID Senior Water Rights") arise under California law from appropriations of Colorado River water and are recognized as part of California's apportionment of Colorado River water pursuant to a 1932 water delivery contract for permanent service with the Secretary of the Interior under the Boulder Canyon Project Act, Act of December 21, 1928, 45 Stat. 1057, as amended, 43 U.S.C. § 617 et seq. ("Boulder Canyon Project Act"). The IID Senior Water Rights include a third, sixth, and seventh priority among California right-holders to use Colorado River water and also include present perfected rights, with a priority date of 1901, as defined by the United States Supreme Court in its decree and supplemental decree, entered March 9, 1964, and January 9, 1979, respectively, in the case of Arizona v. California, 376 U.S. 340 and 439 U.S. 419.

C. The Authority is a county water authority incorporated under the California County Water Authority Act, Stats. 1943, c.545 as amended, codified at § 45-1 et seq. of the Appendix to the California Water Code, for the purpose of augmenting San Diego County's minimal local water resources with a safe, reliable, and sufficient supply of imported water.

D. The Authority, through its 23 member-public agencies, supplies water to approximately 2,700,000 San Diego County residents, government agencies, businesses and agricultural users.

E. The Authority seeks to acquire an independent, reliable, alternate long-term water supply to provide drought protection and to accommodate anticipated growth in municipal, domestic, and agricultural uses.

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RECITALS

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F. The IID may undertake "Water Conservation" (defined below) efforts and will contract with the IID Landowners to undertake Water Conservation efforts in exchange for payment by the Authority.

G. The Authority is willing to make payments to the IID in order to obtain the right to use "Conserved Water" (defined below) created by the Water Conservation efforts of the IID, if any, and the IID Landowners.

H. The purpose of this Agreement is to set forth the terms and conditions under which the Authority will make payments to the IID for the transfer of a specified quantity of Conserved Water to the Authority pursuant to California law, including without limitation §§ 1011, 1012 and 1013 of the California Water Code, as in effect on the Execution Date. The Conserved Water transferred by the IID to the Authority shall arise under and retain the priority of the IID Senior Water Rights.

I. This Agreement provides for the voluntary transfer of Conserved Water from the IID to the Authority in furtherance of California's declared public policy in support of voluntary water transfers.

J. The Parties do not intend to and under the Agreement do not in any way transfer, assign, encumber, or grant the Authority any ownership interest in or control over any of the IID Senior Water Rights.

K. The Effective Date (defined below) of this Agreement and the activities described herein are contingent upon compliance with the California Environmental Quality Act, California Public Resources Code §§ 21000 et seq.; 14 California Code of Regulations §§ 15000 et seq. ("CEQA"), and the National Environmental Policy Act, Title 4, United States Code §§ 4321 et seq.; 40 Code of Federal Regulations §§ 1500.1 et seq. ("NEPA").

AGREEMENT:

NOW THEREFORE, in consideration of the covenants and agreements contained in this Agreement and for other good and valuable consideration, the receipt and sufficiency of which the Parties hereby acknowledge, the IID and the Authority agree that the terms and conditions of this Agreement are as follows:

1 Copies of statutes referenced in this Agreement as "in effect on the Execution Date" are attached as Appendix 1.
ARTICLE 1

DEFINITIONS AND RULES OF CONSTRUCTION

1.1 Definitions. As used in this Agreement, the following terms have the following meanings.

(a) Actual Wheeling Rate. The rate per AF paid to MWD by the Authority for wheeling water from Lake Havasu to the Conveyance Path Terminus, calculated by dividing the Agreement Year annual total of all required payments (inclusive of any Supplemental Wheeling Charges, exclusive of any fixed costs, and net of any benefit credits) by the difference between the total Agreement Year annual volume of Conserved Water transferred by the IID to the Authority less any Conveyance Losses from Lake Havasu to the Conveyance Path Terminus.

(b) Additional Available Water. As defined in § 3.2(a).

(c) Adjunct Contract. As defined in § 3.2(d).

(d) Administrative Committee. As defined in § 17.1.

(e) Advisor. As defined in § 17.2.

(f) AF. Acre-foot, a measure of volume.

(g) AFY. Acre-feet per year.

(h) Agreement Year. Other than with respect to Agreement Year 1, an Agreement Year comprises one Calendar Year, commencing on January 1 and terminating on December 31. Agreement Year X is also sometimes referred to more briefly as "Year X." Except where otherwise stated or where the context obviously requires otherwise, Year X refers to Year X of the Initial Term.

(i) Agreement Year 1. The period commencing on the Initial Transfer Date and terminating on December 31 of that same Calendar Year, or the following Calendar Year, as determined by the following sentences. If the Initial Transfer Date is on or before June 30, Agreement Year 1 terminates on December 31 of that same Calendar Year. If the Initial Transfer Date is on or after July 1, Agreement Year 1 terminates on December 31 of the following Calendar Year. Thus, the length of Agreement Year 1 may vary from approximately six (6) to eighteen (18) months, but in all events Agreement Year 1 terminates at the end of a Calendar Year.

(j) All-American Canal. The canal and appurtenant works from Imperial Dam to the Imperial and Coachella Valleys authorized as a component of the Boulder Canyon Project Act.

(k) Annexation Charges. As defined in § 5.1(a).
(l) **Applicable Discount Rate.** As defined in § 5.1(b).

(m) **Assignment.** Any sale, gift, pledge, hypothecation, encumbrance, or other transfer of all or any portion of the rights in or arising from this Agreement to any person or entity (excluding such a transfer by operation of law), regardless of the legal form of the transaction in which the attempted transfer occurs.

(n) **Authority Environmental Cost Ceiling.** A cost that does not exceed in amount one million dollars ($1,000,000) (Effective-Date Dollars).

(o) **Authority Shortage.** As defined in § 5.1(c).

(p) **Base Contract Price.** As defined in § 5.1(d).

(q) **Base Wheeling Rate.** The calculated rate per AF for costs incurred by MWD from the Authority's wheeling Conserved Water from Lake Havasu to the Conveyance Path Terminus, calculated by the Agreement Year annual total of all Reach Wheeling Charges divided by the difference between the Agreement Year annual volume of Conserved Water transferred by the IID to the Authority and any Conveyance Losses from Lake Havasu to the Conveyance Path Terminus. An example of the method and calculation of the Base Wheeling Rate is included in Exhibit A.

(r) **Benchmark Date.** January 1 of the same Calendar Year as the last day of Agreement Year 1.

(s) **Best Available MWD Information.** To the extent a term or condition under this Agreement requires the utilization of information or data, the source for which is MWD, such information or data must be equally available to or verifiable by both Parties. If such required information or data is not available from MWD in the form, for the time period, for the specific Conveyance Path Reach, or in the detail required by the Agreement or desired by the Parties, then the Parties agree that the best available information from MWD or otherwise that fairly discloses a reasonable estimate of the required information or data shall be utilized.

(t) **BOR.** Bureau of Reclamation.

(u) **Business Day.** A day that is not a Saturday, Sunday, or federal or California state legal holiday.

(v) **Calendar Year.** The year running from January 1 through December 31.

(w) **CEQA.** As defined in Recital K.

(x) **Coachella Canal.** The branch of the All-American Canal leading from the All-American Canal to the CVWD service area authorized as a component of the Boulder Canyon Project Act.
(y) **Colorado River Aqueduct.** The canal and appurtenant facilities used to divert Colorado River water from Lake Havasu to Lake Mathews in the MWD service area.

(z) **Competing Proposed Transaction.** As defined in § 4.4(b).

(aa) **Conserved Water.** Water, or the right to the use of water, that may be sold, leased, exchanged, or otherwise transferred under § 1011(b) of the California Water Code, as in effect on the Execution Date.

(ab) **Consumer Price Index** or **CPI.** The Consumer Price Index for all Urban Consumers (Los Angeles-Anaheim-Riverside, California, All Items, Base 1982-84 = 100), as published by the United States Department of Labor, Bureau of Labor Statistics. If the publication of the Consumer Price Index is discontinued, or if the Consumer Price Index is altered in some material manner, including changing the name of the index, the geographic area covered, the consumers or workers so included, or the base year, the Parties must use their reasonable best efforts to agree on a substitute index or procedure that reasonably reflects and monitors consumer prices.

(ac) **Contracting Landowner.** A Landowner that has contracted with the IID to undertake Water Conservation efforts and reduce its use of Colorado River water.

(ad) **Contributed Power.** As defined in § 1.1(ai).

(ae) **Conveyance Loss.** The actual loss of water to evaporation, seepage, or other similar cause resulting from transportation of the Conserved Water from Lake Havasu to the Conveyance Path Terminus.

#af) **Conveyance Path.** The water conveyance facilities belonging to the MWD and necessary to be utilized to convey Colorado River water from Lake Havasu to the Conveyance Path Terminus.

(ag) **Conveyance Path Capital Costs.** The amortized amount of the net book value for the Agreement Year of the MWD facility(ies) for a specific Conveyance Path Reach for its remaining useful life, based on the most recent estimate of MWD's historical weighted average cost of capital, divided by the Conveyance Path Reach Capacity multiplied by the Reach Quantity.

(ah) **Conveyance Path Operation and Maintenance Costs.** The actual operation and maintenance costs incurred by MWD for the Agreement Year for the facility(ies) for a specific Conveyance Path Reach divided by the Conveyance Path Reach Capacity multiplied by the Reach Quantity.

(ai) **Conveyance Path Power Costs.** The actual incremental power costs incurred by MWD for the Agreement Year to wheel the Reach Quantity along the
Conveyance Path Reach, including a reasonable credit for any offsetting benefits, such as the value of power generated by the conveyance of the Reach Quantity, unless

(i) either Party arranges to make available to MWD the quantity of power needed to wheel the Reach Quantity at terms cheaper than MWD's incremental power costs ("Contributed Power"); and

(ii) the provision of any such Contributed Power is an in-lieu payment of MWD's incremental power costs;

The calculation of any reasonable credit for the power generated by the wheeling of the Reach Quantity shall not be affected by the provision of any Contributed Power.

(aj) **Conveyance Path Reach**. Each segment of the Conveyance Path identified in the Wheeling condition provision of §§ 7.1(e)(iii) and 8.1(e)(iii).

(ak) **Conveyance Path Reach Capacity**. The total aggregate rated capacity for a Conveyance Path Reach.

(al) **Conveyance Path Replacement Costs**. Replacement costs as defined in Water Code § 1811(d), as in effect on the Execution Date, and calculated as the amortized costs of MWD for the Agreement Year for actual purchases and expenditures for the useful life of replacement investments for a specific Conveyance Path Reach, based on the most recent estimate of MWD's historical weighted average cost of capital, divided by the Conveyance Path Reach Capacity multiplied by the Reach Quantity.

(am) **Conveyance Path Terminus**. The point in northern San Diego County near the San Luis Rey River at which water being delivered by MWD to the Authority leaves pipelines or facilities operated or controlled by MWD and enters pipelines or facilities operated or controlled by the Authority.

(an) **Cover Contract**. As defined in § 11.4.

(ao) **Cover Water**. As defined in § 11.4.

(ap) **Critical Year**. A Critical Year is the lowest hydrological availability condition of the Sacramento Valley Water Index as determined on an annual basis by a report prepared by the California Department of Water Resources. The hydrological condition from most plentiful to least plentiful are Wet, Above Normal, Normal, Below Normal, Dry and Critical.

(aq) **CVWD**. Coachella Valley Water District, a county water district organized under the California County Water District Law, codified at § 30000 et seq. of the California Water Code.

(ar) **Delegation**. Any sale, gift, pledge, hypothecation, encumbrance, or other transfer of all or any portion of the obligations or liabilities in or arising from this
Agreement to any person or entity (excluding such a transfer by operation of law), regardless of the legal form of the transaction in which the attempted transfer occurs.

(as) **Disputes.** As defined in Article 17.

(at) **Dispute Panel.** As defined in § 17.6.

(au) **Drought Transaction.** As defined in § 3.2(e).

(av) **Due Date.** As defined in § 6.1(a).

(aw) **Effective Date.** The date on which (i) compliance with CEQA and NEPA has been accomplished, and (ii) all conditions to the Parties' obligations hereunder as set forth in Articles 7 and 8 below have been satisfied or waived, at which time the IID shall be obligated to transfer Conserved Water and the Authority shall be obligated to pay for the transfer of Conserved Water, as set forth in the Agreement.

(ax) **Effective-Date Dollars.** That nominal dollar amount which, when adjusted based on the Consumer Price Index, is equivalent to the specified dollar amount in the Agreement measured as of the Effective Date. The adjustment is calculated according to the following formula:

\[
\text{Nominal-Dollar Amount} = S_{\text{nnn}}(\text{Effective-Date Dollars}) \times \frac{CPI_n}{CPI_e}
\]

Where:

- \( CPI_e \) is the Consumer Price Index published during the thirty days (30) before the Effective Date, and
- \( CPI_n \) is the Consumer Price Index published during the thirty days (30) before the applicable adjustment date, and
- \( S_{\text{nnn}}(\text{Effective-Date Dollars}) \) is the amount stated in the Agreement.

Suppose, for example, that the applicable provision requires payment of one million dollars (\$1,000,000) (Effective-Date Dollars). Assume further that CPI\(_e\) is 161.5, and that CPI\(_n\) is 172. The actual amount that must be paid is:

\[
$1,065,015.48 = $1,000,000 \times \frac{172.0}{161.5}
\]

(ay) **Eligibility Criteria.** As defined in § 5.1(f).

(az) **Eligible Transaction.** As defined in § 5.1(g).

(ba) **Environmental Decision Date.** The date when all notices of exemption, notices of determination and records of decision pursuant to CEQA or NEPA, to the extent required in order to implement activities under this Agreement in compliance
with CEQA and NEPA, have been properly issued and filed, and all legal challenges thereto (if any) have been finally resolved.

(bb) **Event of Default.** As defined in §§ 15.1 and 15.2.

(bc) **Event Constituting An Emergency.** An event which, if not promptly resolved, may result in imminent danger to the public health, safety or welfare.

(bd) **Excluded Connection Maintenance Charges.** As defined in § 5.1(h).

(be) **Excluded Property Taxes.** As defined in § 5.1(i).

(bf) **Execution Date.** The date on which the Parties have signed this Agreement. If the Parties sign on different dates, the Execution Date is the date on which the later-to-sign Party has signed the Agreement.

(bg) **Final Order of Approval.** The order, decision, or other action (collectively "order") issued by the SWRCB or the BOR satisfying the Approval Conditions of §§ 7.1(d)(i) and (ii) and 8.1(d)(i) and (ii) below, if judicial review of such order is not timely sought; and if judicial review is timely sought, then the final nonappealable order entered by any reviewing court.

(bh) **Flood Control Release.** The release of water from Lake Mead and the operation of Hoover Dam for flood control purposes pursuant to the reservoir operating criteria specified in the February 8, 1984 Field Working Agreement between the U.S. Army Corps of Engineers and the BOR, and the U.S. Army Corps of Engineers regulations contained in 33 Code of Federal Regulations 208.11, as in effect on the Execution Date.

(bi) **Fundamental Change.** As defined in § 5.1(j).

(bj) **Fundamental Change Date.** As defined in § 5.1(k).

(bk) **IID Environmental Cost Ceiling.** A cost that is not of a magnitude that might exceed fifteen million dollars ($15,000,000) (Effective-Date Dollars), as determined solely by the IID through the exercise of its complete discretion.

(bl) **IID/MWD 1988 Agreement.** The 1988 agreement between the IID and the MWD, as amended by the 1989 Approval Agreement between the IID, MWD, CVWD and the Palo Verde Irrigation District, for the transfer of water from the IID to the MWD.

(bm) **IID Safe Harbor Quantity.** As defined in § 4.4(a)(ii).

(bn) **IID Senior Water Rights.** As defined in Recital "B."
(bo) **Initial Term.** As defined in § 4.1(a).

(bp) **Initial Transfer Date.** The date that is one hundred eighty (180) days after the Effective Date, even if that one hundred eightieth (180th) day is not a Business Day.

(bq) **Interim Agricultural Water Service Charges.** As defined in § 5.1(l).

(br) **Landowner.** A legal owner of real property located within the jurisdictional boundary of the IID.

(bs) **Last Best Offer.** As defined in § 4.4(d)(i).

(bt) **Late Payment Charge.** As defined in § 6.3.

(bu) **Lower Colorado River Basin.** Those parts of the states of Arizona, California, Nevada, New Mexico, and Utah within and from which waters naturally drain into the Colorado River System below Lee Ferry, Arizona; and parts of said states located without the drainage area of the Colorado River System which are now or shall hereafter be beneficially served by water diverted from the System below Lee Ferry; and the California counties of Imperial, San Diego, Riverside, Orange, San Bernardino, Los Angeles and Ventura.

(bv) **Material Change.** As defined in § 4.2(c).

(bw) **Minimum Qualifying Transaction Threshold.** As defined in § 5.1(m).

(bx) **Mutual Aid.** Action(s) undertaken by the Authority to supply water to any public water supplier in need of water as the result of an Event Constituting An Emergency, natural disaster or system or facility failure.

(by) **MWD.** Metropolitan Water District of Southern California, organized under the Metropolitan Water District Act, as amended, codified at § 109-1 et seq. of the Appendix to the California Water Code.

(bz) **MWD Billing Period.** As defined in § 5.1(n).

(ca) **MWD Full Water Rate.** As defined in § 5.1(o).

(cb) **"N" Year Rolling Average.** As defined in § 5.1(p).

(cc) **NEPA.** As defined in Recital K.

(cd) **Neutral County.** As defined in § 16.3.
(ce) **New Agreement Price.** As defined in § 5.3(b)(vii).

(cf) **New Direct Property Charges.** As defined in § 5.1(r).

(cg) **Non-Volume-Sensitive Charges.** As defined in § 5.1(s).

(ch) **Notice of Dispute.** As defined in § 17.4.

(ci) **Notice of Exercise of Right of First Refusal.** As defined in § 11.3(b).

(cj) **Notice of Impending Shortage.** As defined in § 11.2.

(ck) **Notice of Material Change.** As defined in § 4.2(c).

(cl) **Notice of Reduction Amount.** As defined in § 4.3(b).

(cm) **Notice of Renewal.** As defined in § 4.2(b).

(cn) **Notice of Right to Exercise Right of First Refusal.** As defined in § 11.3(a).

(co) **Notice of Waiver.** As defined in § 3.2(c)(vii)

(cp) **Notice to Acquire.** As defined in § 3.2(c)(i).

(cq) **Notice to Transfer.** As defined in § 3.2(c)(i).

(cr) **Offering Party.** As defined in § 4.4(b).

(cs) **PCC.** The Program Coordinating Committee established pursuant to the IID/MWD 1988 Agreement.

(ct) **Price Redetermination Value.** As defined in § 5.3(b)(vi).

(cu) **Primary Transfer Water.** The amount of Conserved Water transferred, starting with Agreement Year 1 and increasing by twenty thousand (20,000) AFY to and including the Stabilized Primary Quantity.

(cv) **Projected Average Annual Transfers from Qualifying Transactions.** As defined in § 5.1(u).

(cw) **Property Tax Rate Limit.** As defined in § 5.1(v).

(cx) **Qualifying Criteria.** As defined in § 5.1(w).

(cy) **Qualifying Transaction.** As defined in § 5.1(x).
(cz) **Reach Quantity.** The volume of Conserved Water wheeled through a specific Conveyance Path Reach taking into account actual Conveyance Losses for that Conveyance Path Reach.

(da) **Reach Wheeling Charge.** The charge for each specific Conveyance Path Reach determined by the sum of the Conveyance Path Capital Costs, Conveyance Path Replacement Costs, Conveyance Path Operation and Maintenance Costs and Conveyance Path Power Costs for that Reach.

(db) **Recycled Water Service Charges.** As defined in § 5.1(y).

dc) **Reduction Amount.** As defined in § 4.3(a).

(dd) **Renewal Term.** As defined in § 4.1(b).

de) **Replacement Water Rate.** As defined in § 5.1(z).

df) **Request For A Price Redetermination.** As defined in § 5.3(c).

dg) **Responding Party.** As defined in § 4.4(b).

dh) **Right of First Refusal Cap.** As defined in § 4.4(a)(i).

di) **Seasonal Storage Service Charges.** As defined in § 5.1(aa).

dj) **Secretary.** The Secretary of the Department of the Interior of the United States, and duly appointed successors, representatives and others with delegated authority.

dk) **Settling-Up Date.** As defined in § 6.1(c).

dl) **Settling-Up Payment.** As defined in § 6.1(c).

dm) **Shadow Period.** As defined in § 4.4(c).

dn) **Shortage Contract.** As defined in § 11.3.

do) **Shortage Premium.** As defined in § 5.1(ab).

dp) **Shortage Premium Period.** As defined in § 5.1(ac).

dq) **Shortage Premium Table.** As defined in § 5.1(ad).

dr) **Stabilized Primary Quantity.** As defined in § 3.1.

ds) **State Water Project.** The water rights and facilities acquired or constructed pursuant to the Central Valley Project Act, Water Code § 11100 et seq. and the State Water Resources Development Bond Act (Burns Porter Act), Water Code...
§ 12930 et seq. The facilities include the Oroville and upstream reservoirs, an aqueduct system from the Sacramento-San Joaquin Delta to termini in the North and South San Francisco Bay area, the San Joaquin Valley, the Central Coast and Southern California, miscellaneous water conservation, flood control and drainage facilities; power generation, transmission and Davis-Grunsky act water development projects (Water Code § 12880 et seq.).

(dt) **Subsequent Environmental Mitigation Date.** The date after the Environmental Decision Date on which additional environmental mitigation is required as a result of post-Effective Date unanticipated environmental consequences.

(du) **Supplemental Agreement.** As defined in § 11.2(b).

(dv) **Supplemental Wheeling Charge.** The payment by the Authority to MWD as a joint IID/Authority contribution to any MWD off-stream storage program for Colorado River water. The amount of the Supplemental Wheeling Charge shall equal the Supplemental Wheeling Rate, multiplied by the quantity of any Flood Control Releases available for diversion by MWD that were not diverted by MWD into the Colorado River Aqueduct in that month because the Authority wheeled Conserved Water through the Colorado River Aqueduct in that month.

(dw) **Supplemental Wheeling Rate.** The component of the Actual Wheeling Rate for charges imposed by the MWD on the Authority for wheeling Conserved Water from Lake Havasu to the Conveyance Path Terminus when the monthly capacity of the Colorado River Aqueduct is less than the sum of:

(i) The quantity of Conserved Water, if any, the Authority wheels through the Colorado River Aqueduct in that month; plus

(ii) The quantity of water diverted by MWD from the Colorado River in that month under (A) its 4th priority entitlement and (B) pursuant to the IID/MWD 1988 Agreement; plus

(iii) The quantity of any Flood Control Releases available for diversion by MWD in that month.

(dx) **SWRCB.** California State Water Resources Control Board.

(dy) **Transaction.** As defined in § 5.1(ae).

(dz) **Treasury Rate.** The interest rate on six (6) month constant maturity U.S. Treasury securities, as announced in Federal Reserve Statistical Release H.15 (Selected Interest Rates). If the publication of Federal Reserve Statistical Release H.15 is discontinued, or if the Treasury Rate is altered in some material manner, including changing the name of the rate or the securities measured in the rate, the Parties must use their reasonable best efforts to agree on a substitute rate that reasonably captures the same factors, such as risk, duration, and maturity.
(ea) **Treated Water Charges.** As defined in § 5.1(ag).

(eb) **Undiverted Conserved Water.** The difference between one-twelfth (1/12) the Agreement Year quantity of Conserved Water to be transferred by the IID and the quantity actually diverted in any month by the Authority.

(ec) **Untreated Full Service Water Rate.** As defined in § 5.1(ah).

(ed) **Vintage.** As defined in § 5.1(ai).

(ee) **Volume-Sensitive Charges.** As defined in § 5.1(aj).

(ef) **Water Conservation.** As defined in § 1011(a) of the California Water Code, as in effect on the Execution Date.

(eg) **Water Quality Terminus.** The location at Lake Skinner where the quality of water inflow to Lake Skinner is measured.

(eh) **Water Quality Transaction.** As defined in § 3.2(e).

1.2 **Rules of Construction and Word Usage.** Unless the context clearly requires otherwise:

(a) The Recitals to this Agreement are a part of this Agreement to the same extent as the Articles;

(b) The Exhibits attached to this Agreement are incorporated by reference and are to be considered part of the terms of this Agreement;

(c) The plural and singular numbers include the other;

(d) The masculine, feminine, and neuter genders include the others;

(e) "Shall," "will," "must," and "agrees" are each mandatory;

(f) "May" is permissive;

(g) "May not" is prohibitory;

(h) "Or" is not exclusive;

(i) "Includes" and "including" are not limiting; and

(j) "Between" includes the ends of the identified range.
ARTICLE 2

BASIC PROVISION

Subject in all events to the terms and conditions of this Agreement:

(a) The IID may undertake and agrees to contract with Landowners to undertake Water Conservation efforts in order to reduce the diversion (less return flows) of Colorado River water by the IID.

(b) The IID agrees to transfer Conserved Water to the Authority.

(c) The Authority agrees to pay the IID for the Conserved Water so transferred.

(d) The IID and the Authority agree that at the termination of the Agreement neither the terms of the Agreement nor the conduct of the Parties in performance of the Agreement confers upon the Authority any legal or equitable right to the Conserved Water, other than by right of first refusal provided in Article 4 below.

ARTICLE 3

QUANTITY

3.1 Primary Transfer. The quantity of Conserved Water transferred during Agreement Year 1 shall be twenty thousand (20,000) AFY. The quantity transferred will increase by twenty thousand (20,000) AFY each year thereafter until the "Stabilized Primary Quantity" is reached. The "Stabilized Primary Quantity" is that quantity between one hundred thirty thousand (130,000) AFY and two hundred thousand (200,000) AFY, that the IID determines to make available, in its complete discretion. The IID must give notice to the Authority of the Stabilized Primary Quantity no later than the end of the sixth (6th) month following the satisfaction of the Contracting Landowner conditions of §§ 7.1(c)(ii) and 8.1(c)(ii). If the IID fails to give timely notice, the Stabilized Primary Quantity will be two hundred thousand (200,000) AFY. The IID may not change the quantity of the Stabilized Primary Quantity once the amount has been established.

3.2 Discretionary Additional Transfers. Subject to the provisions of this section, (i) if IID wishes to transfer "Additional Available Water," it must offer that Conserved Water first to the Authority, and (ii) if the Authority wishes to acquire additional water from a third party other than MWD, it must offer to purchase Conserved Water first from the IID, up to the "Additional Available Water" quantity.

(a) Additional Available Water. "Additional Available Water" means that quantity of Conserved Water, if any, up to a maximum of one hundred thousand (100,000) AFY, that the IID determines, in its complete discretion, except as limited in this § 3.2, to make available under this Agreement. Once the IID has identified a quantity of Additional Available Water available to the Authority under this Agreement,
such quantity may not be reduced. The quantity of Additional Available Water, if any, is independent of the Stabilized Primary Quantity transferred under § 3.1. Additional Available Water does not include:

(i) Water, in the quantity specified in the following sentences, that the IID transfers to MWD or CVWD under the IID/MWD 1988 Agreement. The quantity of water excluded from Additional Available Water in the preceding sentence is that quantity of water being transferred to MWD or CVWD as of the Execution Date plus any increases resulting from PCC determinations (both terms on an annualized Calendar-Year basis); or

(ii) Water conserved from the All-American Canal or Coachella Canal.

(b) **Price.** The price for Additional Available Water will be the same price as for the Primary Transfer Water transferred under § 3.1 concurrently.

(c) **Procedure.** The transfer of Additional Available Water shall proceed as follows:

(i) **Notice to Acquire; Notice to Transfer.** On or after January 1 of Agreement Year 4, the Authority may give a notice of its desire to obtain Additional Available Water ("Notice to Acquire"), and the IID may give a notice of its desire to transfer Additional Available Water ("Notice to Transfer"). The Notice to Acquire and Notice to Transfer must contain the terms of the desired quantity, transfer start date, period over which the transfer would increase from the minimum to the maximum and any environmental, transportation, SWRCB approval, BOR approval or Landowner participation conditions.

(ii) **Response to Notice; Meet and Confer.** The Party not giving the Notice to Acquire or Notice to Transfer must either accept the terms and conditions contained in such Notice, respond with a counter-Notice containing alternative acceptable terms and conditions, or meet and confer with the Party giving the Notice in order to determine whether mutually acceptable terms and conditions can be negotiated. The Parties have six (6) months from the giving of the earliest Notice to Acquire or Notice to Transfer to reach an agreement on the terms and conditions for the transfer of Additional Available Water or the Notice will be deemed rejected.

(iii) **Condition Removal.** Should the Parties agree that the transfer of Additional Available Water may be conditioned on the satisfaction of environmental, transportation, SWRCB approval, BOR approval or Landowner participation conditions, the period for satisfaction of such conditions may not be longer than twenty-four (24) months from the date that the Parties reach agreement on the terms for transfer of the Additional Available Water. The Parties
agree to proceed with reasonable diligence and use reasonable best efforts to satisfy any conditions for which a Party has accepted responsibility.

(iv) **Start Date.** The first day that Additional Available Water may be transferred to the Authority is the later of:

(A) January 1 of Agreement Year 11; or

(B) Six (6) months after the satisfaction of the last remaining condition referenced in § 3.2(c)(iii) above.

(v) **Transfer Quantity Schedule.** The period over which the quantity of Additional Available Water increases from its minimum to its maximum quantity may be no shorter than two (2) years and no longer than ten (10) years.

(vi) **Term.** The term of transfer of Additional Available Water must end concurrently with the Initial Term and any Renewal Term.

(vii) **Waiver of Right to Acquire or Transfer.** The failure of the Parties to negotiate acceptable terms and conditions for the transfer of Additional Available Water shall entitle the Party sending a Notice to Acquire or Notice to Transfer to give a "Notice of Waiver" which results in both Parties relinquishing any further rights or obligations under § 3.2 with respect to Additional Available Water. If all of the agreed upon conditions for the transfer of Additional Available Water are not satisfied or waived, either Party shall be entitled to give a Notice of Waiver which results in both Parties relinquishing any further rights or obligations under § 3.2 with respect to Additional Available Water, provided the Party sending the Notice of Waiver proceeded with reasonable diligence and used reasonable best efforts to satisfy any condition for which it had accepted responsibility. Unless a Party sends a Notice of Waiver, the rights to Additional Available Water are unaffected and shall continue until the end of the Initial Term.

(d) **IID Carve-Out.** The IID has the right to carve-out from Additional Available Water water that it transfers to MWD or CVWD in connection with the execution of a contract with either of those entities ("Adjunct Contract"). Therefore, the amount of Additional Available Water potentially available to the Authority is up to one hundred thousand (100,000) AFY less the amount transferred to MWD or CVWD pursuant to an Adjunct Contract. This right to carve-out for MWD or CVWD additional Conserved Water is subject to the following restrictions:

(i) The right to execute an Adjunct Contract terminates at the end of Agreement Year 7.

(ii) The transfer of water under an Adjunct Contract may not reduce the quantity to which the Authority is already entitled, as either the Stabilized Primary Quantity or as Additional Available Water. That is, once the IID has specified a Stabilized Primary Quantity or quantity of Additional Available Water.
Water available to the Authority, neither quantity may be reduced. Furthermore, a carve-out for MWD or CVWD may not in any way impact the wheeling of IID transferred Conserved Water by the Authority from Lake Havasu to the Conveyance Path Terminus.

(iii) The IID may not transfer any water to MWD under an Adjunct Contract until the wheeling conditions, §§ 7.1(e) and 8.1(e), have been satisfied or waived.

(iv) Any Adjunct Contract with MWD must either:

(A) Contain, or provide for the concurrent delivery of, a permanent waiver of all existing legal disputes related to the approval conditions under the Agreement, §§ 7.1(d) and 8.1(d), including disputes regarding waste, unreasonable use, forfeiture, equitable apportionment, legality of transfer and legality and sufficiency of verification method, or

(B) Require that the price per AF that MWD pays during any Agreement Year is greater than or equal to the price that the Authority pays during that same Agreement Year.

(v) Any Adjunct Contract with CVWD must contain CVWD's covenant that it may not transfer the water received, directly or indirectly (for example, by exchange), for use outside CVWD's jurisdictional boundaries.

(vi) Within five (5) days of the IID Board approval of an Adjunct Contract, the IID shall deliver to the Authority a copy of the Adjunct Contract and any other information necessary to demonstrate satisfaction of the Adjunct Contract restrictions of § 3.2(d)(i)-(v). The Authority shall have thirty (30) days from such notice to approve or file an objection with the Administrative Committee. Failure to timely file an objection shall be deemed approval. If a timely objection is filed, the Adjunct Contract shall not commence until the objection is finally resolved pursuant to the provisions in Article 17.

(e) Authority Exclusions. The Authority's obligation to first offer to purchase Conserved Water as Additional Available Water from the IID before acquiring water from a third party other than MWD does not apply to the following transactions ("Water Quality Transactions" and "Drought Transactions"):  

(i) Water Quality Transactions. A Water Quality Transaction must satisfy all the following criteria:

(A) The Authority must take delivery of the Water Quality-transferred water at Lake Skinner,
(B) The Authority must not exchange the Water Quality-transferred water for receipt of any other water between Lake Skinner and the Conveyance Path Terminus;

(C) The total dissolved solids ("TDS") of the Water Quality-transferred water as measured at the Water Quality Terminus at the end of every Calendar Year quarter must be less than or equal to four hundred (400) parts per million ("ppm");

(D) The TDS of the Water Quality-transferred water at the Conveyance Path Terminus at the end of every Calendar Year quarter must be less than or equal to the TDS of the Conserved Water transferred by the IID to the Authority under this Agreement, as measured at Lake Havasu;

(E) The annual quantity of Water Quality-transferred water received by the Authority as measured at the Conveyance Path Terminus, when aggregated with all other Water Quality-transferred water from Water Quality Transactions, does not exceed the following schedule:

1. Execution Date to Agreement Year 2 - twenty thousand (20,000) AFY
2. Agreement Year 2 - forty thousand (40,000) AFY
3. Agreement Year 3 - sixty thousand (60,000) AFY
4. Agreement Year 4 - eighty thousand (80,000) AFY
5. Agreement Year 5 - one hundred thousand (100,000) AFY
6. Agreement Year 6 to end of Initial Term - one hundred thousand (100,000) AFY; and

(F) The wheeling rate to be paid by the Authority must be no more than would be calculated utilizing the methodology of the Base Wheeling Rate until either the satisfaction of the wheeling conditions contained in §§ 7.1(e) and 8.1(e) of the Agreement or two (2) years from the Execution Date, whichever is earlier; and thereafter no more than would be calculated utilizing any lawful wheeling rate methodology.
(ii) **Drought Transactions.** Water acquired in a Drought Transaction must be under a contract that is:

(A) Executed after (1) a declaration by the Secretary of a shortage condition for the Lower Colorado River or (2) a monthly projection by the California Department of Water Resources of a Critical Year and which contract requires delivery of all contracted for water within two (2) years from execution, or

(B) Executed before (1) a declaration by the Secretary of a shortage condition for the Lower Colorado River or (2) a monthly projection by the California Department of Water Resources of a Critical Year but which contract provides for delivery of water only after and during a shortage condition on the Lower Colorado River or during a Critical Year, and

(C) Under either (A) or (B) above, the wheeling rate to be paid by the Authority must be no more than would be calculated utilizing the methodology of the Base Wheeling Rate until either the satisfaction of the wheeling conditions contained in §§ 7.1(e) and 8.1(e) of the Agreement or two (2) years from the Execution Date, whichever is earlier; and thereafter no more than would be calculated utilizing any lawful wheeling rate methodology.

(iii) Within five (5) days of the Authority Board approval of a contract for a Water Quality Transaction or a Drought Transaction, the Authority shall deliver to the IID a copy of the contract and any other information necessary to demonstrate satisfaction of the applicable restrictions of § 3.2(e)(i) or (ii). The IID shall have thirty (30) days from such notice to approve or file an objection, and unless the Water Quality or Drought Transaction is in response to an Event Constituting An Emergency, such objection shall be filed with the Administrative Committee. Failure to timely file an objection shall be deemed approval. If a timely objection is filed, the Water Quality Transaction or Drought Transaction shall not commence until the objection is finally resolved pursuant to the provisions of Article 17, if such Transaction is not in response to an Event Constituting An Emergency, or if such Transaction is enjoined from commencing under Article 16.

3.3 **Temporary Re-Transfer.** The Authority has a limited right to re-transfer Conserved Water transferred by the IID. This right is subject to the following terms and conditions:

(a) **No Effect on IID.** The re-transfer may take place only if the re-transfer will not injure the IID.

(b) **Mutual Aid.** The re-transfer may be done only to lend Mutual Aid.
(c) **Duration.** The term of the re-transfer may not exceed twelve (12) months, and there may be no consecutive or regularly recurring re-transfers. If, however, the Mutual Aid condition that justified the temporary re-transfer under § 3.3(b) above has a continuation duration of more than twelve (12) months, then the IID may not unreasonably withhold its consent to a re-transfer with a duration of up to twenty-four (24) months.

(d) **Short-Term Exchange.** If the Authority exchanges IID-transferred Conserved Water for MWD-delivered water with MWD or an MWD member-agency, and if the exchange obligation of each party must be and actually is fulfilled within a single Calendar Year, then that exchange is not a temporary re-transfer and is not subject to the limitations set forth above. The term of any exchange agreement is in the complete discretion of the Authority.

3.4 **Calendar-Year Limitation.** The Authority's right to transferred Conserved Water under this Agreement is not cumulative, and the Authority has no right to any such Conserved Water that it does not divert within the Agreement Year that it is transferred. Thus, if the Authority fails to divert all the Conserved Water to which it is entitled under this Agreement in any one Agreement Year, the amount to which the Authority is entitled (and the amount that the IID is obligated to transfer under this Agreement) in any other Agreement Year is unaffected.

**ARTICLE 4**

**TERM AND RENEWAL**

4.1 **Term.**

(a) **Initial Term.** The period from the Initial Transfer Date to forty-five (45) years after the Benchmark Date. If the Agreement is not renewed on the terms and conditions set forth in this Article, the Agreement terminates at the end of the Initial Term. If the Agreement is renewed, the terms and conditions of the Agreement other than § 4.2 remain in full force and effect.

(b) **Renewal Term.** The period from the expiration of the Initial Term until thirty (30) years after such expiration.

4.2 **Renewal.**

(a) **Option to Renew.** Subject to the Material Change provision in § 4.2(c) below, each Party has a unilateral option to renew the Agreement for the Renewal Term.

(b) **Timing of Option Exercise.** If the Authority wishes to renew the Agreement for the Renewal Term, the Authority must give the IID notice of its exercise of renewal option ("Notice of Renewal") during Agreement Year 33, 34, or 35. If the IID
wishes to renew the Agreement for the Renewal Term, the IID must give the Authority Notice of Renewal during Agreement Year 36, 37, or 38.

(c) **Notice of Material Change.** Irrespective of whether a Party has given, or still has the right to give, a Notice of Renewal, either Party may give notice to the other that the Agreement will not be renewed beyond the Initial Term as the result of a Material Change ("Notice of Material Change"). For the purposes of this § 4.2(c), "Material Change" means that the access to available conveyance facilities and the costs for transportation of the Conserved Water to the Conveyance Path Terminus during the Renewal Term are expected to be materially worse to the Party providing the Notice than those terms were during the Initial Term. A Party may give a Notice of Material Change even if it is the Party that has given, or still has the right to give, a Notice of Renewal. A Notice of Material Change is effective only if given between Agreement Years 35 and 40. The IID or the Authority may respond to a Notice of Material Change and preserve the Notice of Renewal by promptly notifying the other of its exercise of its rights to contribute the additional costs as provided in §§ 7.3 and 8.3 respectively.

4.3 **Reduction in Quantity During Renewal Term.**

(a) **Reduction Amount.** The IID may reduce the quantity of Conserved Water that it must transfer to the Authority, and for which the Authority must pay, by up to thirty four thousand (34,000) AFY ("Reduction Amount") less than the Stabilized Primary Quantity plus any Additional Available water being transferred. Subject to the terms of this § 4.3, this Reduction Amount goes into effect when the Renewal Term commences.

(b) **Notice.** In order to reduce its transfers to the Authority by the Reduction Amount, the IID must, during or before Agreement Year 40, give "Notice of the Reduction Amount" which Notice shall include the amount of the Reduction Amount and the IID's projection that existing or future municipal or industrial demands warrant the Reduction Amount.

(c) **Conditions.** The IID may reduce its transfers by the Reduction Amount only if:

(i) The IID/MWD 1988 Agreement has expired or terminated, or will expire or terminate by the date on which the Renewal Term commences;

(ii) The IID has not, as of the date on which the Renewal Term commences, transferred Conserved Water created under the IID/MWD 1988 Agreement for use outside of Imperial County; and

(iii) The Reduction Amount will not be used or transferred for use outside of Imperial County.
4.4 Right of First Refusal

(a) Analysis of Transfers During Agreement Year 63, Year 18 of the Renewal Term. No later than January 31 following the conclusion of Agreement Year 63, Year 18 of the Renewal Term, the Parties must determine the quantities of water that, during Agreement Year 63:

(i) The IID is transferring to the Authority under the Agreement (the "Right of First Refusal Cap");

(ii) The IID is transferring to third parties, other than the Authority (the "IID Safe-Harbor Quantity"); and

(iii) The Authority is acquiring from MWD, projects and third parties, other than the IID under this Agreement (the "Authority Safe-Harbor Quantity").

(b) Competing Proposed Transaction. A proposed Transaction in which a Party makes a firm offer to, or enters into an agreement with, a third party to acquire (in the case of the Authority) or transfer (in the case of the IID) water, is referred to as a "Competing Proposed Transaction." In order to be considered a Competing Proposed Transaction, the transaction contemplated by the firm offer or agreement must satisfy the Eligibility Criteria as defined in § 5.1(f), other than the satisfaction of § 5.1(f)(iv) regarding being a Noncontingent Transaction and § 5.1(f)(v) regarding the Reference Date. The Party contemplating the Competing Proposed Transaction is the "Offering Party," the other Party is the "Responding Party."

(c) Right of First Refusal. If, at any time after the commencement of Agreement Year 63 and before the end of the period from the expiration of the Renewal Term until ten (10) years thereafter (the "Shadow Period"), an Offering Party contemplates a Competing Proposed Transaction which would cause the IID to have total transfers or the Authority to have total acquisitions in excess of the applicable Safe-Harbor Quantity, then with respect to that Competing Proposed Transaction, the Responding Party has a right of first refusal. The Responding Party may compel the Offering Party to consummate the transfer of water with the Responding Party on the same terms and conditions set forth in the Competing Proposed Transaction.

(d) Exercise of Right of First Refusal.

(i) Meet-and-Confer and Last Best Offer. During the period from the commencement of Agreement Year 63 and the conclusion of Agreement Year 65, the IID and the Authority must meet and confer to see if they can agree to terms for a continuation of the Agreement beyond the expiration of the Renewal Term or agree to terms for a new, superseding agreement. Either Party may make an unlimited number of proposals for the continued transfer of some or all or more Conserved Water, and such proposals may be on terms identical to or wholly or
partly different from those set forth in this Agreement. The last proposal that a Party makes is that Party's "Last Best Offer." Either Party may freely reject any such proposals. If the Parties agree to terms for the transfer of Conserved Water beyond the expiration of the Renewal Term, then the right of first refusal will be automatically canceled and voided. If the Parties do not agree to terms for the transfer of Conserved Water beyond the expiration of the Renewal Term, then for the duration of the Shadow Period, each Party will have a right of first refusal as to the other, in a quantity up to the Right of First Refusal Cap.

(ii) Notice of Competing Proposed Transaction. The Offering Party must give written notice of the Competing Proposed Transaction to the Responding Party immediately after the earlier of (A) the execution of the contract or term sheet for the Competing Proposed Transaction, and (B) the approval of the Competing Proposed Transaction by the Offering Party's Board. The notice must include a copy of the contract or firm offer, such other additional information as is necessary to confirm that the Competing Proposed Transaction satisfies the Eligibility Criteria, other than as to contractual contingencies, and a per AF valuation of the Competing Proposed Transaction and the Responding Party's Last Best Offer.

(iii) Response to Notice. The Responding Party may exercise its right of first refusal by giving notice of such exercise within ninety (90) days after the Offering Party gives notice of the Competing Proposed Transaction. Exercise of the right of first refusal results in a reduction in the Right of First Refusal Cap by the quantity of Conserved Water covered by the Competing Proposed Transaction, even if the Parties do not close the new Transaction because of the failure to satisfy a specified contractual contingency. If the Responding Party does not exercise its right within that ninety (90) day period, then the right of first refusal expires, but only as to that quantity of Conserved Water covered by the Competing Proposed Transaction. (For examples, see Exhibit G.) Thus, the exercise of a right of first refusal or the failure to exercise a right of first refusal results in a reduction to the Right of First Refusal Cap.

(iv) Premium/Discount If Competing Proposed Transaction is Inferior To Last Best Offer. If an Offering Party contemplating a Competing Proposed Transaction has given a notice of the Competing Proposed Transaction, and the terms of that Competing Proposed Transaction are inferior to the Offering Party compared to the terms contained in the Responding Party's Last Best Offer, then the Responding Party may compel the Offering Party to consummate a transfer of water on the same terms and conditions set forth in the Competing Proposed Transaction, other than as to the price for the transferred water. As to price, if the Authority is the Responding Party, then the price that the Authority must pay will be ten percent (10%) less than the price specified in the Competing Proposed Transaction. If the IID is the Responding Party, then the price that the Authority must pay will be ten percent (10%) more than the price specified in the Competing Proposed Transaction.
Comparison of Last Best Offer and Competing Proposed Transaction. In order to compare the terms of the Last Best Offer and a Competing Proposed Transaction, and thus to determine whether a Competing Proposed Transaction is inferior to a Last Best Offer, the Parties must employ the methodology set forth in § 5.3(b) for determining the per AF value of Eligible Transactions and for adjusting for the value of certain Transaction characteristics like supply reliability, water quality and other factors used in the immediately preceding Price Redetermination process. If no Price Redetermination has yet occurred because of the absence of any of the conditions for commencing a Price Redetermination process identified in § 5.3(a), other than the absence of a request by either of the Parties, then no premium or discount under § 4.4(d)(iv) will be applicable.

ARTICLE 5

PRICING

5.1 Pricing Definitions.

(a) Annexation Charges. The levy by the MWD of a special tax upon taxable property or other charges imposed solely as a condition of an agency or territory being annexed into the MWD as authorized under §§ 351 and 372 of the MWD Act and § 33000 of the MWD Administrative Code, as in existence on the Execution Date or thereafter amended or superseded.
(b) **Applicable Discount Rate**

<table>
<thead>
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<th>Agreement Year</th>
<th>Discount Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
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<tr>
<td>2</td>
<td>.2389</td>
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<td>16</td>
<td>.0625</td>
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<tr>
<td>17 and thereafter</td>
<td>.0500</td>
</tr>
</tbody>
</table>

(c) **Authority Shortage.** An Authority Shortage exists, other than one caused by an emergency as defined in California Water Code § 1811(b) as in effect on the Execution Date, for any period following the adoption of a resolution by the Authority Board containing a declaration of a Water Shortage Emergency (pursuant to Water Code § 350 as in effect on the Execution Date) and imposing mandatory water conservation measures or rationing of water deliveries on its member agencies, excluding such impositions on interruptible agricultural water.

(d) **Base Contract Price.** The Base Contract Price shall be determined by the following formula:

\[
[MWD \text{ Full Water Rate} - \text{Base Wheeling Rate}] \times [1 - \text{Applicable Discount Rate}] + 50\% \times [\text{Base Wheeling Rate} - \text{Actual Wheeling Rate}]
\]
The formula is expressed as the "Base Contract Price equals [the MWD Full Water Rate minus the Base Wheeling Rate] multiplied by the difference between [one (1) minus the Applicable Discount Rate] plus fifty percent (50%) of the difference between [the Base Wheeling Rate minus the Actual Wheeling Rate]." Whether the Base Wheeling Rate is more than the Actual Wheeling Rate or the Actual Wheeling Rate is more than the Base Wheeling Rate will determine whether the difference is a positive or negative number and thus whether the Base Contract Price will increase or decrease.

(e) **California Water Market Scale Table.**

**CALIFORNIA WATER MARKET SCALE**

<table>
<thead>
<tr>
<th>Projected Average Annual Transfers from Qualifying Transactions</th>
<th>Weight of Price Redetermination Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.24-0.35 MAF</td>
<td>50%</td>
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<tr>
<td>0.36-0.47 MAF</td>
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<td>0.60-0.71 MAF</td>
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</tr>
<tr>
<td>&gt; 1.20 MAF</td>
<td>100%</td>
</tr>
</tbody>
</table>

(f) **Eligibility Criteria.** Collectively, the following are all necessary Eligibility Criteria:

(i) **Information Availability.** In order for a Transaction to be an Eligible Transaction, the Parties must be able to obtain a complete copy of the underlying contract and other information about the Transaction, transferor and transferee sufficient to evaluate the satisfaction of other Eligibility Criteria.

(ii) **Voluntary Negotiated Transactions.** The Transaction must be the result of voluntary negotiations between a willing transferor and a willing transferee where neither party was compelled or coerced into agreeing to the Transaction or to any of the terms or conditions of the Transaction. If a voluntary Transaction has uniform terms and conditions with other Transactions not the result of independent, arms-length bargaining, then that Transaction and all other identical Transactions with a Reference Date in the same Calendar Year are to be
aggregated and counted as a single Transaction. See, for example, the illustration involving the 1991 Drought Water Bank contained within Exhibit E.

(iii) Geography. The water or water rights that are transferred by the Transaction must be capable of being used for domestic, municipal, industrial or agricultural use within the geographic territory defined as the Lower Colorado River Basin.

(iv) Noncontingent Transaction. All contingencies to the performance by both parties to the Transaction must have been removed before the start of the Price Redetermination.

(v) Reference Date. The date that the Transaction became a binding contract between the parties to the Transaction, which date shall be no more than ten (10) years prior to the Agreement Year of the start date of the Price Redetermination, unless the conditions identified in Exhibit E concerning lengthening the Reference Date Eligibility Criterion are satisfied, but in no event longer than fifteen (15) years, or with a Reference Date before the year 2000.

(vi) Transaction Term. A Transaction must have a minimum term for annual water transfers of five (5) years.

(vii) Minimum Quantity. A Transaction must involve: (A) an average annual transfer quantity of no less than five thousand (5,000) AFY for the term of the Transaction; (B) a cumulative transfer quantity over the term of the Transaction of no less than fifty thousand (50,000) AF, and (C), a frequency of annual water transfers over the term of the Transaction equal to or greater than seventy-five percent (75%) of the years of the term (the number of years water is transferred divided by the contract term, rounded to the nearest percent).

(viii) Feasibility. The IID must face no legal, technical or other barrier that would preclude it from participating in the Transaction as a transferor and realizing the full benefit to the transferor of the terms and conditions of the Transaction; or the Authority must face no legal, technical or other barrier that would preclude it from participating in the Transaction as a transferee and realizing the full benefit to the transferee of the terms and conditions of the Transaction.

(ix) Water Quality. Transactions involving water, the quality of which, when subjected to ordinary and customary treatment in the MWD or the Authority service areas, would fall within the controlling federal and state maximum contaminant levels for potable water.

(x) Excluded Transactions. Any Transaction involving a transfer under an Adjunct Contract with MWD or CVWD; any transfer under the IID/MWD 1988 Agreement; or any transfer of water conserved from the All-American Canal or the Coachella Canal.
(g) **Eligible Transaction.** A Transaction that satisfies each of the Eligibility Criteria.

(h) **Excluded Connection Maintenance Charges.** Any connection maintenance charge established by the MWD pursuant to MWD Administrative Code §§ 4401(b) and 4402, as in existence on the Execution Date or thereafter amended or superseded, that does not exceed two hundred dollars ($200) per cubic feet per second ("cfs").

(i) **Excluded Property Taxes.** MWD property or *ad valorem* taxes that fall below the Property Tax Rate Limit.

(j) **Fundamental Change.** A substantial, fundamental and precipitous change in the nature of MWD's purpose or the extent of MWD's powers, territory, operations, functions, services or the like such that the MWD Full Water Rate is no longer reasonably relevant to the Base Contract Price formula.

(k) **Fundamental Change Date.** The date on which a Fundamental Change is reported to the Administrative Committee, provided such report is either uncontested by the nonreporting Party or, if it becomes a Dispute, is finally resolved pursuant to Article 17; and if the Fundamental Change is confirmed pursuant to Article 17 as reported, then the Fundamental Change Date is the date of reporting.

(l) **Interim Agricultural Water Service Charges.** Any rate or charge established by MWD pursuant to MWD Administrative Code §§ 4117 and 4401(a)(4), as in existence on the Execution Date or thereafter amended or superseded.

(m) **Minimum Qualifying Transaction Threshold.** The minimum Projected Average Annual Transfers from Qualifying Transactions necessary to initiate a Price Redetermination, which quantity must be no less than two hundred forty thousand (240,000) AFY.

(n) **MWD Billing Period.** The time period for an MWD charge as determined by reference to the MWD bill for such charge.

(o) **MWD Full Water Rate.** The Untreated Full Service Water Rate plus the per AF valuation of any other Volume-Sensitive Charges divided by (the Four-Year Rolling Average of the volume of Authority purchases from the MWD plus the quantity of IID Conserved Water transferred to the Authority). The per AF valuation of a Volume-Sensitive Charge is equal to the dollar amount that the Authority is billed divided by the volume of MWD water delivered to the Authority during the MWD Billing Period.

(p) **"N" Year Rolling Average.** The average calculated by using the information available from the specified "N" number of most the recently completed Calendar Years.
(q) **New Agreement Price.** As defined in §5.3(b)(vii).

(r) **New Direct Property Charges.** Any MWD rate or charge that is not an Excluded Property Tax and is collected directly by MWD from a property owner or developer within the jurisdictional boundary of the Authority, provided however, that:

(i) These rates and charges are excluded from the calculation of the MWD Full Water Rate until the impact of the rates and charges would increase the MWD Full Water Rate by five percent (5%);

(ii) These rates and charges are included in the calculation of the MWD Full Water Rate to the extent that such rates and charges would increase the MWD Full Water Rate by more than five percent (5%) and up to fifteen percent (15%), but the increase up to five percent (5%) must first be deducted; and

(iii) If inclusion of these rates and charges increases the MWD Full Water Rate by more than fifteen percent (15%), then one-half (½) the increase above the fifteen percent (15%) level shall be included in the calculation of the MWD Full Water Rate, plus all of the increase provided for under (ii) above. Furthermore, if inclusion would increase the MWD Full Water Rate by twenty-five percent (25%) or more, then in such circumstance, during the Price Redetermination phase, the IID may elect to shift the weighting to one hundred percent (100%) reliance on Eligible Transactions and to recalculate the result of the immediately preceding Price Redetermination and any future Price Redeterminations.

(iv) One-time charges shall be amortized over a thirty (30) year period at the Authority's then existing cost of capital to determine the amount to be utilized in determining the impact on the MWD Full Water Rate.

(s) **Non-Volume-Sensitive Charges.** All MWD rates and charges billed to or through the Authority that do not vary by the volume of water delivered during the MWD Billing Period, except that Non-Volume-Sensitive Charges do not include any of the (i) Excluded Connection Maintenance Charges, (ii) Excluded Property Taxes and (iii) Annexation Charges or (iv) all of the New Direct Property Charges. The portion of the New Direct Property Charges includable in the Non-Volume-Sensitive Charges is specified in the definition of the New Direct Property Charges above.

(t) **Price Redetermination Value.** As defined in § 5.3(b)(vi).

(u) **Projected Average Annual Transfers from Qualifying Transactions.** The average annual volume of water projected to be transferred in Qualifying Transactions over the ten (10) years immediately subsequent to the initiation of the Price Redetermination to be calculated as the sum of all quantities scheduled to be delivered for that ten (10) year period divided by ten (10).
(v) **Property Tax Rate Limit.** That portion of an MWD property or *ad valorem* tax that falls below the following maximum levy:

(i) Voter-authorized general obligation bond debt incurred by MWD before the effective date of the California Constitution article XIII A, § 1, plus

(ii) Voter-authorized general obligation bond debt incurred by MWD pursuant to the voter-override provisions of the California Constitution, article XIII A, § 3; plus

(iii) That portion of MWD's payment obligation under its State Water Project contract for the payment by California of principal and interest on bonds issued pursuant to the California Water Resources Development Bond Act as of 1984 and used to finance the construction of facilities for the benefit of MWD.

(w) **Qualifying Criteria.** Collectively, the following are all necessary Qualifying Criteria:

(i) **Information Availability.** In order for a Transaction to be a Qualifying Transaction, the Parties must be able to obtain a complete copy of the underlying written contract and other information about the Transaction, transferor and transferee sufficient to evaluate the satisfaction of other Qualifying Criteria.

(ii) **Voluntary Negotiated Transactions.** The Transaction must be the result of voluntary negotiations between a willing transferor and a willing transferee where neither party was compelled or coerced into agreeing to the Transaction or to any of the terms or conditions of the Transaction. If a voluntary Transaction has uniform terms and conditions with other Transactions not the result of independent, arms-length bargaining, then that Transaction and all other identical Transactions with a Reference Date in the same Calendar Year are to be aggregated and counted as a single Transaction. See, for example, the illustration involving the 1991 Drought Water Bank contained within Exhibit E.

(iii) **Geography.** The transferor, transferee and the water or water rights that are transferred by the Transaction must all be within California, and the water must be capable of being used for domestic, municipal, industrial or agricultural purposes.

(iv) **Noncontingent Transaction.** All contingencies to the performance by both parties to the Transaction must have been removed before the start of the Price Redetermination.

(v) **Minimum Quantity.** A Transaction must involve an average annual transfer quantity of no less than five thousand (5,000) AFY for the term of the Transaction.
(vi) **Water Quality.** Transactions transferring water the quality of which, when subjected to ordinary and customary treatment in the MWD or the Authority service areas, would fall within the controlling federal and state maximum contaminant levels for potable water.

(vii) **Excluded Transactions.** Any transfer under this Agreement; any transfer under the IID/MWD 1988 Agreement; any transfer of water conserved from the All-American Canal or the Coachella Canal; or any Transaction which became a binding contract between the parties to the Transaction before the Execution Date.

(x) **Qualifying Transaction.** A Transaction that satisfies each of the Qualifying Criteria.

(y) **Recycled Water Service Charges.** Any rate or charge established by MWD pursuant to MWD Administrative Code §§ 4113 and 4401(a)(3), as in existence on the Execution Date or thereafter amended or superseded.

(z) **Replacement Water Rate.** The MWD Full Water Rate in effect on the Fundamental Change Date. The Replacement Water Rate shall change after the Fundamental Change Date as changes occur in the CPI, based on a determination of the relationship between changes in the CPI and changes in the MWD Full Water Rate for the period of time that is the shorter of (i) the ten (10) years immediately prior to the Fundamental Change Date, or (ii) the number of years between the Fundamental Change Date and the Execution Date. An illustration of the determination of the relationship between changes in the CPI and changes in the MWD Full Water Rate and the use of the Replacement Water Rate in the Base Contract Price formula is contained in Exhibit A.

(aa) **Seasonal Storage Service Charges.** Any rate or charge established by MWD pursuant to MWD Administrative Code §§ 4114 and 4401(a)(2), as in existence on the Execution Date or thereafter amended or superseded.

(ab) **Shortage Premium.** The additional price per AF the Authority is required to pay to the IID for all Conserved Water transferred to the Authority during the Shortage Premium Period, as measured by the volume of Conserved Water diverted by the Authority. The Shortage Premium is calculated by using the greater of:

(i) The rate calculated by selecting the premium percentage corresponding to the shortage percentage magnitude from the Shortage Premium Table, determined by reference to the shortage percentage finding in the Authority Shortage resolution, and multiplying the selected percentage by the otherwise applicable Base Contract Price; or

(ii) The rate calculated by multiplying the Base Contract Price by (A) twenty-five percent (25%) when there exists a declaration by the Secretary...
of a shortage condition for the Lower Colorado River, or (B) five percent (5%) when there exists a Critical Year; or

(iii) The rate calculated by multiplying the Base Contract Price by thirty percent (30%) when there exists both (A) a declaration by the Secretary of a shortage condition for the Lower Colorado River, and (B) a Critical Year.

(ac) **Shortage Premium Period.** The Shortage Premium Period duration is the period of consecutive days during which any of the following exist:

(i) An Authority Shortage;

(ii) A shortage condition for the Lower Colorado River as declared by the Secretary; or

(iii) A Critical Year.

(ad) **Shortage Premium Table.**

<table>
<thead>
<tr>
<th>Authority Shortage Percentage Magnitude</th>
<th>Premium</th>
</tr>
</thead>
<tbody>
<tr>
<td>0% to &lt;5%</td>
<td>0%</td>
</tr>
<tr>
<td>5% to &lt;10%</td>
<td>10%</td>
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<tr>
<td>10% to &lt;15%</td>
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<tr>
<td>15% to &lt;20%</td>
<td>30%</td>
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<tr>
<td>20% to &lt;25%</td>
<td>40%</td>
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<tr>
<td>25% to &lt;30%</td>
<td>50%</td>
</tr>
<tr>
<td>≥30%</td>
<td>100%</td>
</tr>
</tbody>
</table>

(ae) **Transaction.** An agreement, as reflected in a written contract, for the transfer of water or water rights where the transferee's use of the transferred water or water rights will be at a location different from that where the transferor used or last used the water or water rights or produces the water.

#af) **Treated Water Charges.** Any rate or charge established by MWD pursuant to MWD Administrative Code §§ 4103 and 4401, as in existence on the Execution Date or thereafter amended or superseded.

(af) **Untreated Full Service Water Rate.** The MWD water rate established for untreated water pursuant to the MWD Administrative Code §§ 4104, 4111 and 4401(a)(1), as in existence on the Execution Date or thereafter amended or superseded.
(ah) **Vintage.** The difference in years between the year of the Price Redetermination and the year the Transaction became a binding contract between the Parties.

(ai) **Volume-Sensitive Charges.** An MWD rate or charge that is billed to the Authority and which billed amount for the MWD Billing Period is affected by the quantity of water MWD delivers to the Authority during the MWD Billing Period, other than an Interim Agricultural Water Service Charge, a Recycled Water Service Charge, a Seasonal Storage Service Charge, or a Treated Water Charge.

5.2 **Initial Pricing Phase.**

(a) **Formula.** The price per AF for Conserved Water transferred during the Initial Pricing Phase shall be determined by the following formula:

\[ \text{Price} = \text{Base Contract Price} + \text{Shortage Premium} \]

The formula is expressed as the "Price equals the Base Contract Price plus the Shortage Premium."

(b) **Changes to Base Contract Price.** The Base Contract Price per AF is recalculated and adjusted whenever one of the addend components of the pricing formula changes. Any rate change is effective for the purpose of calculating the payment due from the Authority on the first day of the next whole month.

(c) **Duration of Initial Pricing Phase.** The Initial Pricing Phase commences on the Initial Transfer Date and remains in effect until the later of (i) the end of Agreement Year 10; or (ii) the satisfaction of the conditions to the commencement of a Price Redetermination.

(d) **Base Contract Price and Shortage Premium Information Sources.**

(i) **MWD Full Water Rate.** The most recent relevant MWD Board resolution(s) and supporting staff memorandum accompanying such resolution(s) containing the information necessary to calculate the MWD Full Water Rate, or the Best Available MWD Information.

(ii) **Base and Actual Wheeling Rate.** The most recent MWD cost accounting records as of June 30 each year as compiled by the Office of the Controller and the bills sent by MWD to the Authority for payment, or the Best Available MWD Information.

(iii) **Shortage Premium.** The most recent relevant Authority Board resolution(s) and supporting staff memorandum accompanying such resolution(s) containing the declaration of the Authority Shortage, percentage
shortage magnitude or cessation of the Authority Shortage; the declaration by the Secretary of shortage, normal or surplus condition for the Lower Colorado River, and the report of any Critical Year(s) and the report of any Dry, Below Normal, Normal, Above Normal or Wet Year(s).

5.3 **Price Redetermination Phase**

(a) **Conditions to Commencement of a Price Redetermination.** A Price Redetermination may be undertaken only if all five (5) of the following conditions are satisfied:

(i) The request of either Party for a Price Redetermination;

(ii) The end of Agreement Year 10;

(iii) The existence of the Minimum Qualifying Transaction Threshold;

(iv) The existence of ten (10) Eligible Transactions; and

(v) Any previous Price Redetermination is either

(A) At least ten (10) years prior; or

(B) Based on fifteen (15) or fewer Eligible Transactions and thereafter, twenty (20) or more Eligible Transactions become available.

(b) **Price Redetermination.** The formulaic process by which the price per AF for Conserved Water under the Agreement may be changed as a result of the consideration of Eligible Transactions and the volume of the Projected Average Annual Transfers from Qualifying Transactions. The methodology, explanation and illustration for a Price Redetermination is set forth on Exhibit E. A Price Redetermination proceeds through the following steps:

(i) Gather and analyze information and data necessary to determine whether the conditions to commencement of a Price Redetermination are all satisfied.

(ii) Calculate the net contract value based on the per AF present value of the payments for the quantity of transferred water for each Eligible Transaction as of the Reference Date for each Eligible Transaction, less the location adjustment.

(iii) Evaluate the Eligible Transactions for the purpose of determining whether there is a statistically valid relationship between the per AF value of the Eligible Transaction and the following Transaction characteristics:
(A) The Reference Date of the Eligible Transaction;

(B) The supply reliability of the transferred water to the transferee under the Eligible Transaction;

(C) The water quality of the transferred water as received by the transferee, including TDS and other quality parameters requested by a Party at the time of the Price Redetermination; and

(D) Other Transaction or transferred water characteristics requested by a Party at the time of the Price Redetermination.

(iv) If a statistically valid relation is confirmed, determine the market value adjustment for the Transaction characteristics.

(v) Evaluate the Agreement characteristics for market value adjustments utilizing the same methodology as used for the Eligible Transactions, and determine an Agreement valuation band to be utilized in Price Redetermination.

(vi) Calculate the "Price Redetermination Value" by (A) utilization of the Agreement valuation band; and (B) the per AF value for the water to be transferred over the remaining term of the Agreement as determined by the same methodology used to determine the per AF value of each Eligible Transaction. If the per AF Agreement value falls within the calculated Agreement valuation band, then no price adjustment to the Agreement is warranted. If the per AF Agreement value falls below the Agreement valuation band, the Price Redetermination Value becomes the lower limit of the Agreement valuation band. If the per AF Agreement value falls above the Agreement valuation band, the Price Redetermination Value becomes the upper limit of the Agreement valuation band.

(vii) After the determination of the per AF Price Redetermination Value, the Agreement price per AF for Conserved Water is adjusted to reflect the California Water Market Scale. The resulting price becomes the New Agreement Price ("New Agreement Price") per AF to be paid by the Authority until the next Price Redetermination, subject to changes in the Base Contract Price and escalations of the Price Redetermination Values included in the New Agreement Price based on changes in the CPI. The adjustment formula is as follows:

\[
\text{New Agreement Price} = \omega \times \text{price based on Price Redetermination Value} + (1-\omega) \times \text{Agreement price per AF before Price Redetermination}
\]

where \(\omega\) equals weight of Price Redetermination based on the California Water Market Scale Table. The formula is expressed as: "the New
Agreement Price equals [the Weight of Price Redetermination from the California Water Market Scale Table multiplied by the Price Redetermination Value] plus [one minus the Weight of Price Redetermination multiplied by the Agreement price per AF before Price Redetermination]."

An example of the calculation of the resulting New Agreement Price per AF using an assumed per AF Price Redetermination Value and an adjustment based on the California Water Market Scale Table is included in Exhibit E.

(c) **Request For A Price Redetermination.** A Party may request a Price Redetermination by sending a "Request For A Price Redetermination." The Request For A Price Redetermination must be accompanied by information the Party reasonably believes satisfies the conditions to commencement identified in § 5.3(a) above, and any other information the requesting Party wishes to have considered. The non-requesting Party shall have ninety (90) days to furnish information it wishes to have considered. The Price Redetermination will be deemed to have commenced as of the date of the Request For A Price Redetermination.

(d) **Price Redetermination Information Sources.** Information sources include copies of the Eligible and Qualifying Transaction contracts, trustworthy information about historical performance and contract implementation, the water use needs of the transferor, the characteristics of the water sources, the circumstances of the Eligible and Qualifying Transaction negotiations, and the legal, technical and other feasibility parameters.

(e) **Registration of Transactions.** By the end of each Calendar Year following the year of the Effective Date, each Party shall submit in writing to the Administrative Committee a list of Transactions that the Party believes would satisfy the requirements for being considered either a Qualifying Transaction or an Eligible Transaction. The Advisor to the Administrative Committee shall gather the information available on each of the listed Transactions, report quarterly to the Administrative Committee the status of the information gathering process, and as soon as reasonably practicable calculate and report the per AF valuation for each Transaction that may reasonably be considered an Eligible Transaction. In addition, the Advisor shall report on the status of the Eligibility Criteria for each of the Transactions that may reasonably be considered an Eligible Transaction. Furthermore, the Advisor shall, as soon as reasonably practicable, calculate and report on the status of the Qualifying Criteria for each Transaction that may reasonably be considered a Qualifying Transaction.

5.4 **Effect of Fundamental Change.** Should a Fundamental Change occur, then as of the Fundamental Change Date, the Replacement Water Rate shall be substituted for all purposes for the MWD Full Water Rate within the Base Contract Price formula.
ARTICLE 6

PAYMENT AND TRANSFER

6.1 Schedule for Payments.

(a) Payment Schedule. Invoices will be sent monthly and shall not be mailed later than the tenth (10th) Business Day of the month. Each such invoice shall indicate the date of mailing and date on which the payment thereunder becomes due, the per AF charges, and the total amount due and owing. Payment of the amount shown on any such invoice shall be due on the tenth (10th) Business Day of the month following the mailing of such invoice ("Due Date").

(b) Amount of Monthly Payments.

(i) The amount for each monthly payment during an Agreement Year is the quantity of Conserved Water to be transferred during that Agreement Year times the applicable price as of the commencement of that Agreement Year divided by twelve (12).

(ii) The Authority may at its discretion defer payment if it diverts Conserved Water transferred by the IID in the following monthly quantities. If eighty percent (80%) or more of one-twelfth (1/12) of the Agreement Year quantity of the Conserved Water is diverted in a month, then the Due Date for full payment will be the regularly scheduled payment date and no deferral is permitted; if forty percent (40%) or more but less than eighty percent (80%) of one-twelfth (1/12th) of the Agreement Year quantity of the Conserved Water is diverted in a month, then the Due Date for payment on the Undiverted Conserved Water shall be on the tenth (10th) Business Day of the second (2nd) month following the month of invoice mailing; and if less than forty percent (40%) of one-twelfth (1/12th) of the annual transfer quantity of the Conserved Water is diverted in a month, then the Due Date for payment on the Undiverted Conserved Water shall be on the tenth (10th) Business Day of the third month following the month of invoice mailing.

(c) Initial Semi-Annual and Final Annual Settling-Up. Although the payment schedule set forth in § 6.1(a) and (b) above is based on a fixed price and assumes that Conserved Water is transferred in twelve (12) equal quantities, the actual amount due under this Agreement, as specified in Article 5, must take into account price changes throughout an Agreement Year. As a result, the sum of the twelve (12) monthly payments actually made may be more, or less, than the actual amount due. Therefore, on a semi-annual and year end basis, as of the tenth (10th) Business Day of August and February respectively (the "Settling-Up Dates"), after the conclusion of the January to June and January to December invoicing periods, the Parties must calculate the amount of any under- or overpayment by the Authority. This under- or overpayment is referred to as the "Settling-Up Payment." If the Authority has paid more than is required under the...
Agreement, the Authority is entitled to a refund from the IID; the Settling-Up Payment represents the amount that the IID must pay the Authority. If the Authority has paid less than is required, the Settling-Up Payment represents the additional amount that the Authority must pay the IID. No deferral of the Settling-Up Payment is permitted.

(d) **Adjustment Amounts.** The adjusted amount due during a calendar month (or, during the first month of Agreement Year 1, a fractional month ending on the end of a calendar month) is the product of the applicable price during that month and the quantity of Conserved Water which the Authority diverts during that month. To the extent that the quantity of Conserved Water with respect to which the Authority diverts is less than the quantity for which it must pay during an Agreement Year under this Agreement (see § 6.5 below), the paid-for-but-undiverted Conserved Water is deemed to have been transferred to the Authority during the last calendar month of an Agreement Year. The adjusted semi-annual amount for the initial semi-annual period is the sum of the adjusted amounts for the months of January to June. The adjusted annual amount of the full annual period is the sum of the adjusted amounts for the months of January to December, less the adjusted semi-annual amount for the initial semi-annual period.

(e) **"As-If" Payments.** The goal of the Settling-Up Payment is to provide the same economic costs and benefits to the Parties "as if" each monthly payment had been made in the amount actually due under the Agreement, based on the prices that actually apply during the month and the quantities of Conserved Water transferred (or deemed to be transferred) during the month. For the initial semi-annual period (January to June) and the full annual period (January to December), the difference between the adjusted semi-annual amount, the adjusted annual amount and the amount actually paid must be determined. This difference (whether under- or overpayment) is then increased by the simple interest that accrues from the monthly Due Date to the Settling-Up Date, with a daily interest rate based on the Treasury Rate (taking the sum of the daily closing rates during the period interest is being paid and dividing it by the sum of Business Days that interest is being paid). Exhibit I to this Agreement contains an example of how the Settling-Up Payment is calculated.

(f) **Mechanics.** Within ten (10) Business Days after the end of the semi-annual periods, or as soon as possible thereafter, the IID will give to the Authority notice of the IID's calculation of the Settling-Up Payment. Within ten (10) Business Days after the Authority receives that notice, or as soon as possible thereafter, the Authority will advise the IID whether it agrees with that calculation. If the Parties agree, then the Settling-Up Payment must be made on the Settling-Up Date.

(g) **Disagreement over the Settling-Up Payment.**

(i) **Agreement as to Over- or Underpayment.** If the Parties agree that there has been an overpayment, or that there has been an underpayment (that is, agree which Party must pay the other), but disagree as to the amount, then the amount that must be paid initially on the Settling-Up Date is the average of the
two numbers offered by the Parties. After the disagreement over the Settling-Up Payment has been resolved, a final reconciling payment may be required.

(ii) **Disagreement as to Over- or Underpayment.** If the parties disagree as to whether there has been an over- or underpayment (that is, do not agree as to which Party must pay the other), then no Settling-Up Payment will be required until the disagreement has been resolved.

(iii) **Reconciling Payment After the Settling-Up Date.** After the disagreement has been resolved, any reconciling payment must include interest on the reconciling amount from the Settling-Up Date through the date the reconciling payment is made, with simple interest calculated at the Treasury Rate, taking the sum of the daily closing rate during the period interest is being paid and dividing it by the sum of Business Days that interest is being paid.

6.2 **Method of Payment.** Every payment to the IID or to the Authority required under this Agreement must be made in lawful money of the United States of America, to the order of the IID or the Authority, and paid by wire transfer. The initial wire transfer instructions are as follows:

- Imperial Irrigation District
  - 01883-80154
  - Reference, if any
  - Bank of America
  - San Francisco
  - 121000358

- San Diego County Water Authority
  - 415 9417138
  - Reference, if any
  - Wells Fargo Bank
  - San Diego
  - 121000248

The IID and the Authority may change these wire transfer instructions by giving a notice in accordance with § 18.6 below.

6.3 **Late Payments.** Payment of the amount required shall be delinquent if not received by the IID before the close of crediting activity on the Due Date. In the event that the Authority is delinquent in the payment of any amount required, the Authority shall pay an additional charge ("Late Payment Charge") equal to two percent (2%) of the delinquent payment for each month or portion thereof that such payment remains delinquent, provided however, that if the total period of delinquency does not exceed five (5) Business Days, the additional charge shall be equal to one percent (1%) of the delinquent payment.
6.4 Transfer Commencement. The transfer of Conserved Water shall commence on the Initial Transfer Date.

6.5 Transfer Mechanism and Location. The IID effects a transfer of Conserved Water under this Agreement by reducing its annual diversion (less return flows) from the Colorado River at Imperial Dam by an amount equal to the Conserved Water to be transferred. When the IID effects a transfer in that manner, the IID has satisfied its obligation to transfer such Conserved Water. The Authority accepts responsibility for the transferred Conserved Water at Imperial Dam. The Authority has no duty to divert any or all of the Conserved Water. The payments by the Authority to the IID under this Agreement are for the transfer of the Conserved Water, whether or not the Authority actually diverts that Conserved Water. The Authority bears the sole risk and responsibility of transporting the Conserved Water to the Conveyance Path Terminus, including any disruption or cost resulting from MWD conduct contrary to the provision of the contract or other arrangement which satisfied the Wheeling conditions of §§ 7.1(e) and 8.1(e).

6.6 Authority's Scheduling Discretion. The Authority accepts the transfer of Conserved Water beginning on January 1 of each Agreement Year. The Authority has the complete discretion within an Agreement Year on the scheduling of its diversions from the point of diversion to the Conveyance Path Terminus.

ARTICLE 7

CONDITIONS TO AUTHORITY'S OBLIGATIONS

7.1 Satisfaction of Conditions to the Authority's Obligations. The Authority's obligations to pay for the transfer of Conserved Water as contemplated by this Agreement is subject to the satisfaction of the following conditions for the Authority's benefit on or before the dates specified below. The Authority agrees to proceed with reasonable diligence and use its reasonable best efforts to satisfy those conditions for which it has responsibility.

(a) Performance, Representations, and Warranties by the IID. The IID has duly performed in all material respects each and every applicable covenant and agreement that the IID is to perform under this Agreement, and the IID's representations and warranties set out in § 10.2 below remain true and correct in all material respects as of the date on which all other conditions in this § 7.1 have been satisfied or waived.

(b) Environmental Obligations.

(i) Completion of Review. Within five (5) years after the Execution Date, the Authority (A) has completed all environmental review and assessment required pursuant to CEQA and NEPA, as described in Article 9, and has certified the completion of the CEQA review process, (B) has determined to proceed with implementation of the activities described in this Agreement, as it may be amended to include project alternatives and/or mitigation measures which
the Authority considers appropriate or which are legally required by any other state or federal agency with discretionary authority over the project, and (C) the cost, as reasonably estimated by the Authority, of all environmental mitigation measures for which the Authority is responsible as described in § 7.1(b)(ii), as determined during the environmental review process and as of the Environmental Decision Date, does not exceed the Authority Environmental Cost Ceiling.

(ii) Responsibility for Mitigation Measures. The Authority shall be responsible for implementing, at its cost, all environmental mitigation measures adopted as part of the environmental review process in order to mitigate the impacts of the "project" (A) on resources within San Diego County, (B) on the Colorado River between Lake Havasu and Imperial Dam, and (C) caused by the transportation of Conserved Water to the Authority.

(iii) After the Effective Date. If, after the Effective Date, unanticipated environmental consequences result in additional mitigation costs, and those costs exceed, as of the Subsequent Environmental Mitigation Date, the difference between two million dollars ($2,000,000) (Effective-Date Dollars) and the Authority's mitigation costs for mitigation identified as of the Effective Date pursuant to § 7.1(b)(i) above, then the Authority may at that time terminate this Agreement. (See, for example, Exhibit H.)

(c) Contracting Landowners. The IID has (i) within eighteen (18) months of the Execution Date, entered into subscriptions with Landowners, expressly conditioned upon the IID's compliance with environmental laws pursuant to Article 9 of this Agreement, expressing Landowners' interest in undertaking Water Conservation efforts, and (ii) no later than one hundred twenty (120) days after satisfaction of the conditions described in §§ 7.1(b)(i)(A) and (B) and 8.1(b)(i)(A) and (B), the IID has entered into contracts with the Landowners that call for, or are expected to yield when the Water Conservation efforts have been fully implemented, at least one hundred thirty thousand (130,000) AFY of Conserved Water, which contracts may remain subject to satisfaction of all conditions set forth in Articles 7 and 8.

(d) Approvals.

(i) SWRCB. Within five (5) years of the Execution Date, the SWRCB has entered a Final Order that approves the IID's transfer of Conserved Water to the Authority under this Agreement and which is based on the following findings:

(A) California law, including §§ 1011, 1012 and 1013 of the California Water Code as in effect on the Execution Date, applies to and governs the IID's transfer of Conserved Water to the Authority and IID's Senior Water Rights are unaffected by IID's transfer of Conserved Water to the Authority;
(B) The Conserved Water transferred by the IID to the Authority under the Agreement retains the same priority as if the water had been diverted by and used within the IID; and

(C) The quantity of Conserved Water transferred in each Agreement Year will be verified by the SWRCB confirming that: (1) the IID is enforcing the contractual duties and obligations of the Contracting Landowners to undertake Water Conservation efforts; (2) the IID has undertaken Water Conservation efforts, if applicable; and (3) the IID's diversions at Imperial Dam (less return flows) have been reduced in an amount equal to the quantity of Conserved Water transferred for each Agreement Year.

To the extent that the SWRCB imposes costs on the Parties for its review and approval of the IID's transfer of Conserved Water to the Authority under this Agreement, the IID and the Authority agree to share such costs equally, except that: SWRCB-imposed costs relating to the SWRCB's role in environmental review with respect to environmental mitigation shall be allocated based on the division of environmental mitigation responsibility identified in §§ 7.1(b)(ii) and 8.1(b)(ii); and any SWRCB-imposed costs relating to the SWRCB's role in reviewing IID's reasonable and beneficial use of water shall be borne solely by the IID.

(ii) BOR. Within six (6) years of the Execution Date, the Secretary has approved the IID's transfer of Conserved Water to the Authority under this Agreement by executing a Review and Approval Agreement substantially in the form set forth as Exhibit K.

To the extent that the BOR imposes costs on the Parties for its review and approval of the IID's transfer of Conserved Water to the Authority under this Agreement, the IID and the Authority agree to share such costs equally, except that: BOR-imposed costs relating to the BOR's role in environmental review with respect to environmental mitigation shall be allocated based on the division of environmental mitigation responsibility identified in §§ 7.1(b)(ii) and 8.1(b)(ii); and any BOR-imposed costs relating to any BOR role in reviewing IID's reasonable and beneficial uses of water shall be borne solely by the IID.

(iii) Litigation. Within six (6) years of the Execution Date, any litigation challenge that would result in a prohibition for either Party to perform under the Agreement or that would result in a judgment or finding relating to any of the specific findings sought from the SWRCB or the BOR has been finally resolved with a judgment or findings consistent with all of the terms and conditions of this Agreement.

(e) Wheeling. Within two (2) years of the Execution Date, the Authority has obtained from MWD or otherwise by contract or other arrangements,
satisfactory to the Authority in its complete discretion, the ability to wheel the Conserved Water to the Conveyance Path Terminus on the following terms and conditions:

(i) **Actual Wheeling Rate Methodology.** The Actual Wheeling Rate will be determined by a methodology consistent with the definition of the Base Wheeling Rate under this Agreement.

(ii) **Payments.** The Authority is only required to pay to the MWD an Actual Wheeling Rate, exclusive of any Supplemental Wheeling Charge, that does not exceed the Base Wheeling Rate, and the Supplemental Wheeling Rate does not exceed sixty dollars ($60) per AF.

(iii) **Conveyance Path Requirements.** The Conveyance Path must encompass and be limited to the following Conveyance Path Reaches:

- (A) From Whitsett Intake to San Jacinto Tunnel;
- (B) Through Casa Loma Siphon Barrel No. 2;
- (C) Casa Loma Canal from Siphon Barrel No. 2 to headworks of San Diego Canal;
- (D) San Diego Canal to Lake Skinner;
- (E) Outlet works of Lake Skinner to the Conveyance Path Terminus.

(iv) **Quantity Requirements.** MWD makes available to the Authority at the Conveyance Path Terminus the same quantity of Colorado River water that the Authority makes available to MWD at Lake Havasu, less Conveyance Losses.

(v) **Maximum Conveyance Loss.** The Conveyance Losses deducted by MWD for wheeling from Lake Havasu to the Conveyance Path Terminus shall be equal to or less than one and one-half percent (1 1/2%) of the Conserved Water volume diverted at Lake Havasu.

(vi) **Term of Wheeling Access.** The initial term for access begins no later than the Initial Transfer Date and ends no earlier than the expiration of the Initial Term.

7.2 **Costs of Satisfying Conditions.** Other than with respect to the Authority's obligations for environmental mitigation, spelled out in § 7.1(b), payment of SWRCB or BOR expenses spelled out in § 7.1(d)(i) and (ii), and without regard to the Authority's reasonable-best-efforts obligation set forth in § 7.1, the amount that the Authority should spend in an effort to satisfy these conditions is committed wholly to the Authority's complete discretion.
7.3 **Contribution to Satisfaction of Conditions.** With respect to the environmental mitigation and wheeling conditions above and in § 4.2(c), the IID may (but is not in any way compelled to) contribute the additional costs, in excess of the specified caps, such that the net economic effect to the Authority is the same as if the condition had been satisfied directly. (See examples and methodology description in Exhibit J.) In that event, the condition is deemed satisfied, and the Authority may not terminate the Agreement on the basis that the condition has not been satisfied. The IID's right applies both before and after the Effective Date.

7.4 **Written Waiver of Conditions.** The Parties agree that the Authority may waive in writing any one or more of the foregoing conditions, provided however, that neither Party shall waive compliance with CEQA or NEPA or other requirements under applicable laws. A written waiver of a condition must be delivered in accordance with the notice provision of § 18.6 below. As to any condition to the obligation of both Parties (i.e., as set forth in both Article 7 and Article 8), a waiver of that condition is effective only if made by both Parties.

7.5 **Extension by Agreement.** The Parties may agree to extend the date by which any condition must be satisfied or waived.

7.6 **Consequence of Failure of Conditions.** If the conditions in this Article are not timely satisfied or waived, then this Agreement will be void, and all rights granted by this Agreement will be terminated and forfeited.

**ARTICLE 8**

**CONDITIONS TO IID'S OBLIGATIONS**

8.1 **Satisfaction of Conditions to the IID's Obligations.** The IID's obligations to undertake Water Conservation efforts and transfer Conserved Water as contemplated by this Agreement is subject to the satisfaction of the following conditions for the IID's benefit on or before the dates specified below. The IID agrees to proceed with reasonable diligence and use its reasonable best efforts to satisfy those conditions for which it has responsibility.

(a) **Performance, Representations, and Warranties by the Authority.** The Authority has duly performed in all material respects each and every applicable covenant and agreement that the Authority is to perform under this Agreement, and the Authority's representation and warranties set out in § 10.1 below remain true and correct in all material respects as of the date on which all other conditions in this § 8.1 have been satisfied or waived.

(b) **Environmental Obligations.**

(i) **Completion of Review.** Within five (5) years after the Execution Date, the IID (A) has completed all environmental review and assessment required pursuant to CEQA and NEPA, as described in Article 9, and has certified the completion of the CEQA review process, (B) has determined

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**ARTICLES 7, 8**
to proceed with implementation of the activities described in this Agreement, as it
may be amended to include project alternatives and/or mitigation measures which
the IID considers appropriate or which are legally required by any other state or
federal agency with discretionary authority over the project, and (C) the cost, as
reasonably estimated by the IID of all environmental mitigation measures for which
the IID is responsible as described in § 8.1(b)(ii), including any financing costs the
IID incurs in borrowing money to fund mitigation programs, as determined during
the environmental review process and as of the Environmental Decision Date, will
not exceed the IID Environmental Cost Ceiling.

(ii) Responsibility for Mitigation Measures. The IID shall be
responsible for implementing, at its cost, all environmental mitigation measures
adopted as part of the environmental review process in order to mitigate the
impacts of the "project" (A) on resources within Imperial County, exclusive of the
Colorado River between Imperial Dam and the northern county border, and (B) on
the Salton Sea.

(iii) After the Effective Date. If, after the Effective Date, initial
mitigation costs or, as of a Subsequent Environmental Mitigation Date,
unanticipated environmental consequences result in additional mitigation costs, and
those costs exceed the difference between thirty million dollars ($30,000,000) (in
Effective-Date Dollars) and the IID's mitigation costs for mitigation identified as of
the Effective Date pursuant to § 8.1(b)(i) above, then the IID may at that time
terminate the Agreement. (See, for example, Exhibit H.)

(c) Contracting Landowners. The IID has (i) within eighteen (18)
months of the Execution Date, entered into subscriptions with Landowners, expressly
conditioned upon the IID's compliance with environmental laws pursuant to Article 9 of
this Agreement, expressing Landowners' interest in undertaking Water Conservation
efforts, and (ii) no later than one hundred twenty (120) days after satisfaction of the
conditions described in §§ 7.1(b)(i)(A) and (B) and 8.1(b)(i)(A) and (B), the IID has
entered into contracts with the Landowners that call for, or are expected to yield when the
Water Conservation efforts have been fully implemented, at least one hundred thirty
thousand (130,000) AFY of Conserved Water, which contracts may remain subject to
satisfaction of all conditions set forth in Articles 7 and 8.

(d) Approvals.

(i) SWRCB. Within five (5) years of the Execution Date, the
SWRCB has entered a Final Order that approves the IID's transfer of Conserved
Water to the Authority under this Agreement and which is based on the following
findings:

(A) California law, including §§ 1011, 1012 and 1013 of
the California Water Code as in effect on the Execution Date, applies to
and governs the IID's transfer of Conserved Water to the Authority and
IID's Senior Water Rights are unaffected by IID's transfer of Conserved Water to the Authority.

(B) The Conserved Water transferred by the IID to the Authority under the Agreement retains the same priority as if the water had been diverted by and used within the IID.

(C) The transfer of Conserved Water by the IID to the Authority under the Agreement is in furtherance of SWRCB Decision 1600, SWRCB Water Rights Order 88-20, article X, § 2 of the California Constitution, and §§ 100 and 109 of the California Water Code as in effect on the Execution Date.

(D) The transfer of Conserved Water by the IID to the Authority under the Agreement establishes the reasonable and beneficial use of water by the IID;

(E) The quantity of Conserved Water transferred in each Agreement Year will be verified by the SWRCB confirming that: (1) the IID is enforcing the contractual duties and obligations of the Contracting Landowners to undertake Water Conservation efforts; (2) the IID has undertaken Water Conservation efforts, if applicable; and (3) the IID's diversions at Imperial Dam (less return flows) have been reduced in an amount equal to the quantity of Conserved Water transferred for each Agreement Year;

(F) The IID's reduced diversions at Imperial Dam (less return flows) during an Agreement Year will be measured by subtracting from three million one hundred thousand (3,100,000) AFY the sum of [actual diversions (less return flows) of the IID during the Agreement Year under its priority 3 water right plus the amount of water transferred to the MWD under the IID/MWD 1988 Agreement] and disregarding the actual diversions (less return flows) of the IID during the Agreement Year, if any, under its priority 6 or 7 priority water right; and

(G) To assist the administration of diversions on the Colorado River and insulate junior right holders from any possible impact during the term of the Agreement, the IID will forbear under its priority 3 water right from diverting (less return flows) in excess of three million one hundred thousand (3,100,000) AFY and from diverting (less return flows) in excess of ninety percent (90%) of the water available under its priority 6 and 7 water right.

To the extent that the SWRCB imposes costs on the Parties for its review and approval of the IID's transfer of Conserved Water to the Authority under this Agreement, the IID and the Authority agree to share such costs equally,
except that: SWRCB-imposed costs relating the SWRCB’s role in environmental review with respect to environmental mitigation shall be allocated based on the division of environmental mitigation responsibility identified in §§ 7.1(b)(ii) and 8.1(b)(ii); and any SWRCB-imposed costs relating to the SWRCB role in reviewing IID’s reasonable and beneficial use of water shall be borne solely by the IID.

(ii) **BOR.** Within six (6) years of the Execution Date, the Secretary has approved the IID’s transfer of Conserved Water to the Authority under this Agreement by executing a Review and Approval Agreement substantially in the form set forth as Exhibit K.

To the extent that the BOR imposes costs on the Parties for its review and approval of the IID’s transfer of Conserved Water to the Authority under this Agreement, the IID and the Authority agree to share such costs equally; except that: BOR-imposed costs relating to the BOR’s role in environmental review with respect to environmental mitigation shall be allocated based on the division of environmental mitigation responsibility identified in §§ 7.1(b)(ii) and 8.1(b)(ii); and any BOR-imposed costs relating to any BOR role in reviewing IID’s reasonable and beneficial uses of water shall be borne solely by the IID.

(iii) **Litigation.** Within six (6) years of the Execution Date, any litigation challenge that would result in a prohibition for either Party to perform under the Agreement or that would result in a judgment or finding relating to any of the specific findings sought from the SWRCB or the BOR has been finally resolved with a judgment or findings consistent with all of the terms of this Agreement.

(e) **Wheeling.** Within two (2) years of the Execution Date, the Authority has obtained from MWD or otherwise by contract or other arrangements, satisfactory to the IID in its complete discretion, the ability to wheel the Conserved Water to the Conveyance Path Terminus on the following terms and conditions:

(i) **Actual Wheeling Rate Methodology.** The Actual Wheeling Rate will be determined by a methodology consistent with the definition of the Base Wheeling Rate under this Agreement.

(ii) **Payments.** The Authority is only required to pay to the MWD an Actual Wheeling Rate, exclusive of any Supplemental Wheeling Charge, that does not exceed the Base Wheeling Rate, and the Supplemental Wheeling Rate does not exceed sixty dollars ($60) per AF.

(iii) **Conveyance Path Requirements.** The Conveyance Path must encompass and be limited to the following Conveyance Path Reaches:

(A) From Whitsett Intake to San Jacinto Tunnel;
(B) Through Casa Loma Siphon Barrel No. 2;

(C) Casa Loma Canal from Siphon Barrel No. 2 to headworks of San Diego Canal;

(D) San Diego Canal to Lake Skinner;

(E) Outlet works of Lake Skinner to the Conveyance Path Terminus.

(iv) **Quantity Requirements.** MWD makes available to the Authority at the Conveyance Path Terminus the same quantity of Colorado River water that the Authority makes available to MWD at Lake Havasu, less Conveyance Losses.

(v) **Maximum Conveyance Loss.** The Conveyance Losses deducted by MWD for wheeling from Lake Havasu to the Conveyance Path Terminus shall be equal to or less than one and one-half percent (1½ %) of the Conserved Water volume diverted at Lake Havasu.

(vi) **Term of Wheeling Access.** The initial term for access begins no later than the Initial Transfer Date and ends no earlier than the expiration of the Initial Term.

8.2 **Costs of Satisfying Conditions.** Other than with respect to the IID’s obligations for environmental mitigation, spelled out in § 8.1(b) above, payment of SWRCB or BOR expenses spelled out in § 8.1(d)(i) and (ii), and without regard to the IID’s reasonable-best-efforts obligation set forth in § 8.1, the amount that the IID should spend in an effort to satisfy these conditions is committed wholly to the IID’s complete discretion.

8.3 **Contribution to Satisfaction of Conditions.** With respect to the environmental mitigation and the wheeling condition above and in § 4.2(c), the Authority may (but is not in any way compelled to) contribute the additional costs, in excess of the specified caps, such that the net economic effect to the IID is the same as if the condition had been satisfied directly. (See examples and methodology description in Exhibit J.) In that event, the condition is deemed satisfied, and the IID may not terminate the Agreement on the basis that the condition has not been satisfied. The Authority's right applies both before and after the Effective Date.

8.4 **Waiver of Conditions.** The Parties agree that the IID may waive in writing any one or more of such conditions; provided however, that neither Party shall waive compliance with CEQA or NEPA or other requirements under applicable law. A written waiver of a condition must be delivered in accordance with the notice provision of § 18.6 below. As to any condition to the obligation of both Parties (i.e., is set forth in both Article 7 and Article 8), a waiver of that condition is effective only if made by both Parties.

8.5 **Extension by Agreement.** The Parties may agree to extend the date by which any condition must be satisfied or waived.
8.6 **Consequence of Failure of Conditions.** If the conditions in this Article are not timely satisfied or waived, then this Agreement will be void, and all rights granted by this Agreement will be terminated and forfeited.

**ARTICLE 9**

**COMPLIANCE WITH ENVIRONMENTAL LAWS**

9.1 **Compliance With CEQA and NEPA.**

(a) **Environmental Assessment.** In executing this Agreement, the Parties recognize and acknowledge that no commitment can be made to carry out any "project" within the meaning of CEQA or NEPA unless and until the environmental review and assessment required by CEQA and NEPA has been completed. To the extent the activities contemplated by this Agreement, or any portion thereof, constitute a "project" within the meaning of CEQA or NEPA, approval and implementation of such activities are expressly contingent upon completion of the environmental review and assessment required by CEQA or NEPA.

(b) **Definition of "Project."** This Agreement shall serve as an initial definition of the "project" which the Parties will submit to review pursuant to CEQA. Execution of this Agreement, therefore, constitutes only a preliminary decision which is necessary to produce a legally adequate environmental assessment. Execution of this Agreement is not intended to commit either the IID or the Authority to undertake the project without compliance with CEQA and NEPA or to commit the Parties to a course of action which would result in approval of the project. Only after completion of the environmental review process, and the Parties' full review and consideration of the environmental information, will the Parties decide what action, if any, should be taken. For purposes of CEQA review, the project shall include the Water Conservation efforts to be carried out by the IID, if any, and the Contracting Landowners, and the transfer of Conserved Water from the IID to the Authority, as contemplated and described by this Agreement. In addition, for purposes of NEPA review, the project shall include (i) any discretionary action to approve or execute any contract or other document which involves major federal action within the meaning of NEPA, or (ii) any activities covered by the issuance of any permit or entitlement by a federal agency or which involves major federal action within the meaning of NEPA.

(c) **Responsibilities of Agencies.** The Parties shall cooperate with each other, in good faith, and provide staff and other resources, as needed, to conduct a thorough and legally sufficient environmental assessment of the project. The Parties hereby designate the IID as the lead agency for purposes of compliance with CEQA, recognizing that under NEPA the federal agency with principal approval authority will be the federal lead agency. The Authority shall act as a responsible agency for purposes of compliance with CEQA with respect to those aspects of the project over which the Authority has review and approval authority. The IID shall consult with the Authority and the Authority shall cooperate with the IID in connection with the preparation and review.
of the environmental documentation in order to ensure compliance with CEQA and NEPA. Unless the IID as lead agency determines that the project is exempt under the provisions of CEQA, the IID shall conduct the initial study required by CEQA to determine whether the project may have a significant effect on the environment. If the IID determines that an environmental impact report ("EIR") under CEQA and an environmental impact statement ("EIS") under NEPA are required, it is the intent of the Parties that, to the extent authorized by the federal lead agency, a joint EIR/EIS shall be prepared. Nothing in this § 9.1 is intended to preclude issuance of a Negative Declaration (including a Mitigated Negative Declaration) under CEQA, a finding of no significant impact ("FONSI") under NEPA, or application of an exemption according to the provisions of CEQA or NEPA if the IID, as lead agency, determines after consultation with the Authority, as responsible agency, that any of these actions are appropriate based upon its review of the project.

(d) **Alternatives and Mitigation Measures.** As required by CEQA and NEPA, any EIR, EIS or joint EIR/EIS prepared for the project shall include those analyses required by law, including identification and meaningful evaluation of a range of reasonable alternatives to the project which could feasibly attain the basic objectives of the project and mitigation measures which would lessen any significant adverse effects of the project, and shall also include evaluation of a no project alternative.

(e) **Discretion of the IID.** Prior to final approval or implementation of the project, the IID and the Authority shall consider the environmental documentation prepared pursuant to CEQA and NEPA. As to any identified significant adverse impacts that can be reduced to a level less than significant through the adoption of feasible alternatives and/or mitigation measures, or in the case of significant adverse impacts that cannot be reduced to a level less than significant, the IID shall have complete discretion, subject to the requirements of CEQA and NEPA, whether to adopt such alternatives and/or mitigation measures, or to approve the project notwithstanding one or more significant environmental impacts together with a statement of overriding considerations, as the case may be. If the IID determines not to adopt such alternatives or mitigation measures, or decides not to issue a statement of overriding considerations, the IID may terminate this Agreement and shall not be obligated to undertake Water Conservation efforts, contract with Contracting Landowners to undertake Water Conservation efforts or transfer Conserved Water as contemplated by this Agreement. An alternative or mitigation measure shall not be deemed by the IID to be infeasible for economic reasons if the cost of the alternative or mitigation measure, when considered cumulatively with the cost of other alternatives or mitigation measures and which are the responsibility of the IID under this Agreement, does not exceed the IID Environmental Cost Ceiling.

(f) **Discretion of the Authority.** As to any identified significant adverse impacts attributable to those aspects of the project which are components of the transportation of the Conserved Water, the Authority shall have the discretion to make the final determination as to what alternatives or mitigation measures will be adopted, notwithstanding the Authority's general position as a responsible agency, and notwithstanding that the IID will retain its designation as lead agency. It is the intent of
the Parties that, subject to the requirements of CEQA, the Authority shall have the same
discretion as may be exercised by the IID under § 9.1(e) with respect to incorporation of
alternatives and mitigation measures into the project that are within the scope of the duties
and obligations of the Authority under this Agreement. If the Authority determines not to
adopt alternatives or mitigation measures to reduce impacts to levels less than significant,
or decides not to issue a statement of overriding considerations, the Authority may
terminate this Agreement and shall not be obligated to pay for the transfer of Conserved
Water as contemplated by this Agreement. An alternative or mitigation measure shall not
be deemed by the Authority to be infeasible for economic reasons if the cost of the
alternative or mitigation measure, when considered cumulatively with the cost of other
alternatives or mitigation measures and which are the responsibility of the Authority under
this Agreement, does not exceed the Authority Environmental Cost Ceiling.

(g) Additional Procedures. Consistent with the provisions of this
Agreement and with CEQA/NEPA requirements, the Parties shall, in good faith, establish
additional and further procedures for implementing and conducting an environmental
review of the project contemplated by this Agreement.

9.2 Compliance With Endangered Species Act and Other
Applicable Laws. The Parties shall take all steps necessary to assess whether the
activities described in this Agreement may adversely impact threatened or endangered
species, critical habitat or other environmental resources regulated pursuant to the federal
Endangered Species Act, the California Endangered Species Act and other applicable
state and federal laws relating to the protection of environmental resources (collectively,
"Resource Laws"). To the extent required to implement the activities described in this
Agreement in compliance with all Resource Laws, and as a condition to implementing
such activities, the Parties shall jointly undertake consultation with the U.S. Fish &
Wildlife Service ("USFWS") and process all permits, approvals and authorizations from
USFWS, the California Department of Fish & Game and other resource agencies.

ARTICLE 10

REPRESENTATIONS AND WARRANTIES

10.1 The Authority's Representations and Warranties.

(a) Due Authority/Approval. Subject only to any approvals required
under Article 7 of this Agreement and compliance with environmental laws pursuant to
Article 9 of this Agreement: (i) the Authority has all legal power and authority to enter
into this Agreement and to accept the transfer of the Conserved Water on the terms set
forth in this Agreement; and (ii) the execution and delivery of this Agreement and the
Authority's performance of its obligations under the Agreement have been duly authorized
by all necessary actions of the Authority, and no other act or proceeding by the Authority
is necessary to authorize such execution, delivery, or performance.
(b) **Signatories.** The persons executing this Agreement on behalf of the Authority have full power and authority to bind the Authority to the terms of this Agreement. In addition, the persons signing this Agreement on the Authority's behalf personally warrant and represent that they have such power and authority. Furthermore, the persons signing this Agreement on the Authority's behalf personally warrant and represent they have reviewed the Agreement, understand its terms and conditions and have been advised by counsel regarding the same.

(c) **Enforceability.** Subject only to any approvals required under Article 7 of this Agreement and compliance with environmental laws pursuant to Article 9 of this Agreement, this Agreement constitutes the valid and binding agreement of the Authority, enforceable against the Authority in accordance with the terms of the Agreement.

(d) **No Conflict.** The execution and implementation of the Agreement do not violate or trigger default under any law or other agreement to which the Authority is subject.

(e) **No Pending or Threatened Disputes.** Except as disclosed on Schedule 10.1(e) attached to this Agreement, there are no actions, suits, legal or administrative proceedings, or governmental investigations pending or, to the Authority's knowledge, threatened against or affecting the Authority relating to the performance contemplated by this Agreement, including the IID's Water Conservation efforts, the IID's transfer of Conserved Water to the Authority, and the Authority's payment for such Conserved Water.

(f) **Notice of Developments.** The Authority agrees to give prompt notice to the IID if the Authority discovers that any of its own representations and warranties were untrue when made or determines that any of its own representations and warranties will be untrue as of the Effective Date. No such notice will be deemed to amend any schedule delivered.

10.2 **The IID's Representation and Warranties.**

(a) **Due Authority and Approval.** Subject only to any approvals required under Article 8 of this Agreement and compliance with environmental laws pursuant to Article 9 of this Agreement: (i) the IID has all legal power and authority to enter into this Agreement and to transfer the Conserved Water on the terms set forth in this Agreement, and (ii) the execution and delivery of this Agreement and the IID's performance of its obligations under the Agreement have been duly authorized by all necessary actions of the IID, and no other act or proceeding by the IID is necessary to authorize such execution, delivery, or performance.

(b) **Signatories.** The persons executing this Agreement on behalf of the IID have full power and authority to bind the IID to the terms of this Agreement. In addition, the persons signing this Agreement on the IID's behalf personally warrant and
represent that they have such power and authority. Furthermore, the persons signing this Agreement on the IID's behalf personally warrant and represent that they have reviewed this Agreement, understand its terms and conditions, and have been advised by counsel regarding the same.

(c) **Enforceability.** Subject only to any approvals required under Article 8 of this Agreement and compliance with environmental laws pursuant to Article 9 of this Agreement, this Agreement constitutes the valid and binding agreement of the IID, enforceable against the IID in accordance with the terms of the Agreement.

(d) **No Conflicts.** The execution and implementation of the Agreement do not violate or trigger default under any law or other agreement to which the IID is subject.

(e) **No Pending or Threatened Disputes.** Except as disclosed on Schedule 10.2(e) attached to this Agreement, there are no actions, suits, legal or administrative proceedings, or governmental investigations pending or, to the IID's knowledge, threatened against or affecting the IID relating to the performance contemplated by this Agreement, including the IID's Water Conservation efforts, the IID's transfer of Conserved Water to the Authority, and the Authority's payment for such Conserved Water.

(f) **Notice of Developments.** The IID agrees to give prompt notice to the Authority if the IID discovers that any of its own representations and warranties were untrue when made or determines that any of its own representations and warranties will be untrue as of the Effective Date. No such notice will be deemed to amend any schedule delivered.

**ARTICLE 11**

**REDUCTIONS IN THE TRANSFER OF CONSERVED WATER AS A RESULT OF SHORTAGE CONDITIONS ON THE COLORADO RIVER**

In the event that the Secretary declares a shortage condition on the Lower Colorado River, and such shortage condition is of sufficient magnitude that the Secretary requires a reduction in diversions (less return flows) by the IID under its priority 3 right, then the IID shall be entitled to reduce its transfer of Conserved Water to the Authority without liability in the manner set forth below, and the Authority shall be entitled to reduce its payment to the IID in a corresponding amount.

11.1 **Pro Rata Reduction.** The IID and the Authority will share pro rata in the reduction in the IID's allowed diversions (less return flows) under priority 3 from the Colorado River. The IID's delivery to the Authority will be reduced by the Authority's pro rata share, calculated as: "[the IID delivery obligation to the Authority under the Agreement in Colorado River normal flow year] divided by [the IID's priority 3 right] multiplied by [the reduction in"
water available to the IID under its priority 3 right]." For example, if the IID were obligated to transfer to the Authority two hundred thousand (200,000) AFY in a normal flow year, the IID's priority 3 right is at three million one hundred thousand (3,100,000) AFY; and Colorado River shortage causes IID's priority 3 right to be cut back by three hundred thousand (300,000) AFY, then the formula for the Authority's pro rata share and the amount the Authority will be reduced is equal to \((200,000 + 3,100,000) \times 300,000 = 19,355\) AFY.

11.2 Impending Shortage and Supplemental Agreement. Within forty-five (45) days of delivery by the other Party of a "Notice of Impending Shortage," the Parties shall conduct a meet-and-confer session for the purpose of negotiating a mutually acceptable "Supplemental Agreement" (as defined below) for the transfer by the IID of supplemental Conserved Water to the Authority.

(a) The Notice of Impending Shortage may be sent when:

(i) The unregulated inflow into Lake Powell is forecasted by the BOR to be less than eight million eight hundred thousand (8,800,000) AF for the next twelve (12) months for the period April to March. Unregulated flow and Lake Mead storage shall be determined each year between April 1 and April 15 based on April 1 seasonal runoff forecasts by the BOR in cooperation with the National Weather Service; and

(ii) The usable storage in Lake Mead is less than fifteen million (15,000,000) AF as of the date of the forecast of the unregulated inflow into Lake Powell.

(b) The "Supplemental Agreement" shall contain the terms and provisions under which the IID will produce and transfer Conserved Water to the Authority for the period between the date on which the Secretary declares a Colorado River shortage condition and the date on which the Secretary next declares a normal or surplus condition.

(c) If a Supplemental Agreement is negotiated and executed by the IID and the Authority, but (a) the Secretary declares a normal or surplus condition without a shortage condition having been declared, or (b) the Secretary declares a normal or surplus condition after a shortage condition had been declared but the shortage magnitude never caused a reduction in the IID's right to make priority 3 diversions (less return flows), then the Supplemental Agreement shall be void and of no force or effect.

11.3 Right of First Refusal. If a Supplemental Agreement has not been reached within sixty (60) days of delivery of the Notice of Impending Shortage, then the Authority shall have a right of first refusal for any contract for transfer of Conserved Water by the IID and a third party that is entered into after the delivery of the Notice of Impending Shortage and which contract provides for the delivery of Conserved Water to commence within eighteen (18) months (a "Shortage Contract"). The Authority's right of first refusal shall continue until the Secretary declares that the Colorado River is in a normal or surplus flow condition, even if the
Authority does not exercise its right of first refusal each time such right is exercisable with respect to successive Shortage Contracts.

(a) Within five (5) days of the IID Board approval of a Shortage Contract, the IID shall deliver to the Authority a "Notice of Right to Exercise Right of First Refusal" along with a copy of the Shortage Contract.

(b) Within forty-five (45) days of the IID's delivery of a Notice of Right to Exercise Right of First Refusal, the Authority shall exercise its right of first refusal by delivering to the IID a "Notice of Exercise of Right of First Refusal," along with evidence of the Authority's Board approval, or shall expressly waive in writing its opportunity to accept that particular Shortage Contract. Failure by the Authority to respond in writing to the Notice of Right to Exercise of Right of First Refusal within forty-five (45) days shall be deemed a waiver of the Authority's right to accept the particular Shortage Contract, and thereafter the IID shall be free to go forward with the Shortage Contract with the third party.

(c) The Authority's exercise of its right of first refusal shall obligate the Authority to perform under any Shortage Contract for the entire contractual term of the Shortage Contract and according to all of its terms.

11.4 Cover Water

(a) Reimbursement Conditions. The Authority may mitigate its pro rata reduction by contracting with a third party ("Cover Contract") to provide a replacement supply of water exclusive of any reduction of Additional Available Water ("Cover Water"). (Any reduction shall be pro rated between Primary Transfer Water and Additional Available Water based on the ratio of Primary Transfer Water to Additional Available Water being transferred.) The IID will reimburse the Authority an amount as set forth below for the cost of Cover Water provided that all of the following conditions are satisfied:

(i) Neither a Supplemental Agreement nor the exercise of a right of first refusal on a Shortage Contract has provided the Authority with a quantity of water equal to or greater than the pro rata reduction of the Primary Transfer Water;

(ii) A Notice of Waiver has been sent by either Party; and

(iii) The percentage magnitude of the Authority Shortage is greater than or equal to thirty percent (30%).

(b) Notice. Within five (5) days of the Authority's Board approval of a Cover Contract, the Authority shall deliver to the IID a copy of the Cover Contract.

(c) Reimbursement Amount. The IID shall reimburse the Authority for fifty percent (50%) of the difference between the cost per AF of the Cover Water and the
water being transferred to the Authority by the IID under the Agreement, with such obligation to extend only to the actual amount of water equal to the Authority's pro rata reduction in the Primary Transfer Water under this Agreement, and not to any pro rata reduction in the amount of Additional Available Water being transferred to the Authority. However, under no circumstances shall the IID's annual reimbursement obligation exceed one hundred dollars ($100) per AF multiplied by fifteen percent (15%) of the Primary Transfer Water that would have been transferred but for the declared shortage condition of the Colorado River. The determination of the cost of the Cover Water shall be made in the same manner as the determination of the cost of water under an Eligible Transaction in a Price Redetermination.

(d) Reimbursement Termination. The IID's reimbursement obligation shall terminate upon the Secretary's declaration that the Colorado River is in a normal or surplus flow condition.

ARTICLE 12

OTHER RISKS

12.1 An adverse determination to the IID, if not pursued or supported by the Authority, restricting the IID from diverting and using more than 3,100,000 AFY under its priority 3 appropriative right after the Effective Date based on theories of equitable apportionment, forfeiture, abandonment or other theory related to the IID's use, shall not reduce the quantity of Conserved Water that the IID is obligated to transfer to the Authority under this Agreement.

12.2 The consent of the IID to a restriction on its right to divert and use more than 3,100,000 AFY under its priority 3 appropriative right after the Effective Date shall not reduce the quantity of Conserved Water that the IID is obligated to transfer to the Authority under this Agreement.

12.3 The consent of the IID to, or an adverse determination against the IID, if not pursued or supported by the Authority, after the Effective Date finding that the IID is no longer reasonably and beneficially using all of its water shall not reduce the quantity of Conserved Water that the IID is obligated to transfer to the Authority under this Agreement.

12.4 Except as a result of breach by Contracting Landowners, an adverse determination after the Effective Date that the amount of Conserved Water available for transfer by the IID to the Authority is less than the amount originally approved by the SWRCB and BOR shall modify the Agreement by reducing the IID's transfer of Conserved Water obligation to the newly-determined reduced amount and by reducing the Authority's payment to the IID to correspond to the newly-determined reduced amount.

12.5 The risk of an unexpected event disrupting the IID's ability to generate or transfer Conserved Water or an unexpected event disrupting the Authority's ability to receive Conserved Water such as a natural disaster, act of war or like emergency, shall be borne by the
Parties as follows. An extended drought, even of unexpected magnitude, is not an unexpected disrupting event.

(a) The IID shall be required, at its own expense, to take whatever steps are necessary to cure or solve the unexpected disruption to its ability to generate and transfer Conserved Water and shall provide the Authority as soon as reasonably possible with any makeup water necessary to replace any Conserved Water lost as a result of the unexpected disruption. The Authority may also withhold payments otherwise due until the makeup water is generated and transferred.

(b) The Authority shall be required, at its own expense, to take whatever steps are necessary to cure or solve the unexpected disruption in its ability to receive Conserved Water and during such disruption, shall not be relieved of its payment obligations to the IID.

(c) The Parties agree, to the extent practicable and without shifting the risks as set forth in this Article 12, to actively cooperate and use their reasonable best efforts to mitigate the effects of any such unexpected disruption event, including actively participating in a joint request to the BOR for an emergency storage right in Lake Mead or Lake Havasu for the Conserved Water.

(d) The Parties agree that during the period of the uncured, unexpected disruption event under § 12.5(b), the Authority shall be relieved of the Temporary Re-Transfer restrictions of § 3.3.

ARTICLE 13

EMINENT DOMAIN/TAKINGS

13.1 A lawful taking by an empowered governmental entity of some or all of the IID's priority 3 water rights shall entitle the IID to retain all compensation paid by the taking governmental entity; provided, however, that if the taking prevents the IID from transferring the full quantity of Conserved Water to the Authority under this Agreement, the Authority will share in any compensation paid to the extent the taking reduces the IID's transfer of Conserved Water. If the taking does not prevent the IID from transferring the full quantity of Conserved Water under this Agreement, then the taking shall not reduce the quantity of Conserved Water that the IID is obligated to transfer under this Agreement.

13.2 A lawful taking by an empowered governmental entity of some or all of the Authority's right to receive Conserved Water under this Agreement shall entitle the Authority to retain all compensation paid by the taking governmental entity.
ARTICLE 14

MISCELLANEOUS

14.1 **IID Retention of Water Rights; No "Property" Rights in Water Rights Created Hereunder.** The Parties agree that the Agreement does not in any way transfer, assign, encumber, or grant the Authority any ownership interest in or control over any of the IID Senior Water Rights. The Authority covenants and agrees not to assert any such interest in or control over any of the IID Senior Water Rights. Furthermore, upon the termination of the Agreement, neither the terms of the Agreement or the conduct of the Parties in performance of the Agreement shall be construed to enhance or diminish the rights of either Party as such rights existed at the Execution Date, including, without limitation rights arising from the application of principles of reliance, estoppel, intervening public use, domestic or municipal priority, domestic or municipal shortage or emergency, or equitable apportionment.

14.2 **Contracts with the Landowners.** The IID solely shall contract with the Contracting Landowners and shall be solely responsible for enforcing the terms of such contracts. The IID shall bear the sole responsibility and consequences of a breach by any Contracting Landowner. The Authority shall not be a third party beneficiary to any of the contracts between the Contracting Landowners and the IID, and the Authority shall not have or acquire any rights by virtue of those contracts. The IID covenants and agrees that following will not be a permitted Water Conservation effort under its contracts with its Contracting Landowners.

ARTICLE 15

DEFAULT

15.1 **Events of Default by the Authority.** Each of the following constitutes an "Event of Default" by the Authority under this Agreement:

(a) **Payment.** The Authority fails to pay any amount by the Due Date. If the Authority fails to pay any payment on the Due Date, that delinquent payment will bear a Late Payment Charge as set forth in § 6.3 until paid in full.

(b) **Other Promises.** The Authority fails to perform or observe any term, covenant, or undertaking in this Agreement that it is to perform or observe, and such default continues for forty-five (45) days from a Notice of Default being sent in the manner provided in § 18.6.

(c) **Warranties and Representations.** Any warranty, representation, or other statement made by or on behalf of the Authority and contained (i) in this Agreement or (ii) in any other document furnished in compliance with or in reference to this Agreement is on the date made, or later proves to be, false, misleading, or untrue in any material respect.
15.2 **Events of Default by the IID.** Each of the following constitutes an Event of Default by the IID under this Agreement.

(a) **Transfer.** The IID fails to transfer Conserved Water in the quantities and on the schedule specified in this Agreement.

(b) **Other Promises.** The IID fails to perform or observe any term, covenant, or undertaking in this Agreement that it is to perform or observe, and such default continues for forty-five (45) days from a Notice of Default being sent in the manner provided in § 18.6.

(c) **Warranties and Representations.** Any warranty, representation, or other statement made by or on behalf of the IID and contained (i) in this Agreement or (ii) in any other document furnished in compliance with or in reference to this Agreement is on the date made, or later proves to be, false, misleading, or untrue in any material respect.

**ARTICLE 16**

**REMEDIES**

16.1 **Specific Performance.** Each Party recognizes and agrees that the rights and obligations set forth in this Agreement are unique and of such a nature as to be inherently difficult or impossible to value monetarily. If one Party does not perform in accordance with the specific wording of any of the provisions in this Agreement applicable to that Party, or otherwise breaches, the other Party would likely suffer irreparable harm. Therefore, if either Party breaches this Agreement, an action at law for damages or other remedies at law would be wholly inadequate to protect the unique rights and interests of the other Party to the Agreement. Accordingly, in any court controversy concerning this Agreement, the Agreement's provisions will be enforceable in a court of equity by a decree of specific performance. This specific-performance remedy is not exclusive and is in addition to any other remedy available to the Parties.

16.2 **Cumulative Rights and Remedies.** The Parties do not intend that any right or remedy given to a Party on the breach of any provision under this Agreement be exclusive; each such right or remedy is cumulative and in addition to any other remedy provided in this Agreement or otherwise available at law or in equity. If the nonbreaching Party fails to exercise or delays in exercising any such right or remedy, the nonbreaching Party does not thereby waive that right or remedy. In addition, no single or partial exercise of any right, power, or privilege precludes any other or further exercise of a right, power, or privilege granted by this Agreement or otherwise.

16.3 **Action or Proceeding Between the Parties.** Each Party acknowledges that it is a "local agency" within the meaning of § 394(c) of the California Code of Civil Procedure ("CCP"). Each Party further acknowledges that any action or proceeding commenced by one Party against the other would, under § 394(a) of the CCP, as a matter of law be subject to...
(a) Being transferred to a "Neutral County," or

(b) Instead, having a disinterested judge from a Neutral County assigned by the Chairman of the Judicial Council to hear the action or proceeding.

A "Neutral County" is one in which neither the Authority nor the IID is situated. Each Party hereby:

(a) Stipulates to the action or proceeding being transferred to a Neutral County or to having a disinterested judge from a Neutral County assigned to hear the action or proceeding;

(b) Waives the usual notice required under the law-and-motion provisions of Rule 317 of the California Rules of Court;

(c) Consents to having any motion under § 394(c) heard with notice as an ex parte matter under Rule 379 of the California Rules of Court, and

(d) Acknowledges that this Agreement, and in particular this section, may be submitted to the court as part of the moving papers.

Nothing in this section, however, impairs or limits the ability of a Party to contest the suitability of any particular county to serve as a Neutral County.

ARTICLE 17

RESOLUTION OF DISPUTES

All disputes ("Disputes") between the parties other than Events of Default or Events Constituting An Emergency shall be resolved pursuant to the provisions of this Article.

17.1 Administrative Committee. An "Administrative Committee" shall be established comprised of two representatives from each Party designated by each Party's General Manager. This Administrative Committee shall be formed for the general purpose of ensuring this Agreement is being administered and implemented in accordance with its terms. The Parties to this Agreement shall exercise their best efforts to resolve Disputes through the development of a consensus. The Parties shall alternate chairing the Administrative Committee. In each odd year, beginning in Agreement Year 1, a representative from IID shall be the Chair of the Administrative Committee. In each even year, beginning in Agreement Year 2, one of the Authority representatives shall be the Chair of the Administrative Committee. The Chair shall have the responsibility for scheduling all meetings required under this Article. A meeting of the Administrative Committee can be requested by either Party at any time. The Administrative Committee shall use best efforts to obtain consensus on the appropriate resolution of technical, administrative, financial, legal and operational issues that may arise from time to time. The Administrative Committee shall instruct, supervise and give direction to the Advisor.
17.2 **Employment of Advisor.** The Administrative Committee shall employ at the equal expense of both Parties an individual (the "Advisor") with the education and skills appropriate to assist the Administrative Committee acquire necessary information, evaluate information and reach consensus on issues that may arise concerning the Base Contract Price, Shortage Premium, Price Redetermination, Adjunct Contracts, Water Quality Transactions, Drought Transactions, Last Best Offer comparisons, and Shortage Sharing matters.

17.3 **Annual Meeting.** The Administrative Committee shall meet at least once annually, or as frequently as necessary, for the purpose of reviewing the administration and implementation of this Agreement.

17.4 **Dispute Resolution Procedure.** The Parties to this Agreement shall submit any Dispute related to or arising under this Agreement to the Administrative Committee for consideration. The Party raising the Dispute shall be required to submit a description of the Dispute in writing to the other Party ("Notice of Dispute"). Within fourteen (14) calendar days of the Party's receipt of the Notice of Dispute, the Chair shall schedule a meeting of the Administrative Committee to address the identified Dispute. The Administrative Committee shall convene a meeting within thirty (30) calendar days of the receipt of the Notice of Dispute and it shall use good faith and best efforts to resolve the Dispute.

17.5 **Content of Written Notice of Dispute.** The Notice of Dispute shall provide a brief description of the nature of the Dispute and any relevant background information that will assist the Administrative Committee in its attempt to fairly resolve the matter in conformance with the terms of this Agreement. The Notice shall identify the nature of the decision or relief requested.

17.6 **Failure of the Administrative Committee to Resolve the Dispute.** In the event that the Administrative Committee cannot resolve the Dispute, the resolution of the Dispute shall be referred to a panel comprised of two designated governing board representatives and one staff member or staff designee from each of the Parties ("Dispute Panel"). The six-member Dispute Panel shall meet at least once to discharge their good faith obligations to resolve the Dispute by consensus. The Parties may mutually agree to utilize the services of a professional mediator to facilitate dispute resolution. Any mediator shall be selected jointly by the Parties and his fees shall be paid equally by the Parties. Any individual who mediates a Dispute shall not be appointed by either Party as an arbitrator for resolution of that Dispute.

17.7 **Arbitration.** Any Dispute arising out of this Agreement which cannot be resolved by agreement shall be resolved through binding arbitration by a panel of arbitrators in an arbitration proceeding conducted in a Neutral County, or such other location as the Parties may agree. Arbitration proceedings may be initiated by either Party sending a demand for arbitration to the other Party in conformance with the Notice provisions of this Agreement. The Parties shall impanel a group of three arbitrators by each selecting an arbitrator of their choice who shall then select the third member of the panel. If the two arbitrators appointed by the Parties cannot agree on a third arbitrator within ten (10) Business Days from the initiation of the arbitration proceeding, the third neutral arbitrator shall be selected by the presiding judge of the Neutral County superior court. At least one of the arbitrators must be a person who has actively engaged
in the practice of law with expertise deciding disputes and interpreting contracts. Prior to the commencement of proceedings, the appointed arbitrators will take an oath of impartiality. The Parties shall use their reasonable best efforts to have the arbitration proceeding concluded within ninety (90) Business Days of the selection of the third panel member.

In rendering the award, the arbitrators shall determine the rights and obligations of the Parties according to the substantive and procedural laws of California. All discovery shall be governed by the CCP with all applicable time periods for notice and scheduling provided therein being reduced by one-half (½). The arbitrators may establish other discovery limitations or rules. The arbitration process will otherwise be governed by the Commercial Arbitration Rules of the American Arbitration Association. All issues regarding compliance with discovery requests shall be decided by the arbitrators. A decision by two of three arbitrators will be deemed the arbitration decision. The arbitration decision shall be in writing and shall specify the factual and legal bases for the decision. The decision of such arbitrators shall be final and binding upon the parties, and judgment upon the decision rendered by the arbitration may be entered in the Neutral County superior court.

The costs (including, but not limited to, reasonable fees and expenses of counsel and expert or consultant fees and costs), incurred in an arbitration (including the costs to enforce or preserve the decision) shall be borne by the Party whom the decision is against. If the decision is not clearly against one Party on one or more issues, each Party shall bear its own costs. The arbitration decision shall identify whether any Party shall be responsible for the other Party's costs.

17.8 Event Constituting An Emergency. An Event Constituting An Emergency shall not be subject to the provisions of this Article 17.

ARTICLE 18

GENERAL PROVISIONS

18.1 No Third-Party Rights. This Agreement is made solely for the benefit of the Parties and their respective permitted successors and assigns (if any). Except for such a permitted successor or assign, no other person or entity may have or acquire any right by virtue of this Agreement.

18.2 Counting Days. Days shall be counted by excluding the first day and including the last day, unless the last day is not a Business Day, and then it shall be excluded. Any act required by this Agreement to be performed by a certain day shall be timely performed if it is completed before 5:00 p.m. Pacific Time on that date, unless otherwise specified. If the day for performing any obligation under this Agreement is not a Business Day, then the time for performing that obligation shall be extended to 5:00 p.m. Pacific Time on the next Business Day.

18.3 Ambiguities. Each Party and its counsel have participated fully in the drafting, review and revision of this Agreement. A rule of construction to the effect that ambiguities are to be resolved against the drafting Party will not apply in interpreting this Agreement, including any amendments or modifications.

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ARTICLES 17, 18
18.4 **Governing Law.** California law governs this Agreement and any dispute arising from the relationship between the Parties under the Agreement.

18.5 **Binding Effect; No Assignment.** This Agreement is and will be binding upon and will inure to the benefit of the Parties and, upon dissolution, the legal successors and assigns of their assets and liabilities. Except as permitted in § 3.3 regarding the limited Re-Transfers by the Authority, neither Party may assign any of its rights or delegate any of its duties under this Agreement. Any Assignment or Delegation made in violation of this Agreement is void and of no force or effect.

18.6 **Notices.** All notices, requests, demands, or other communications under this Agreement must be in writing, and sent to both addressees of each Party. Notice will be sufficiently given for all purposes as follows:

- **Personal Delivery.** When personally delivered to the recipient. Notice is effective on delivery.

- **First-Class Mail.** When mailed first-class to the last address of the recipient known to the Party giving notice. Notice is effective five mail delivery days after it is deposited in a United States Postal Service office or mailbox.

- **Certified Mail.** When mailed certified mail, return receipt requested. Notice is effective on receipt, if a return receipt confirms delivery.

- **Overnight Delivery.** When delivered by an overnight delivery service such as Federal Express, charged prepaid or charged to the sender's account. Notice is effective on delivery, if delivery is confirmed by the delivery service.

Addresses for purpose of giving notice are as follows:

To IID:  
Imperial Irrigation District  
333 E. Barioni Boulevard  
P.O. Box 937  
Imperial, California 92251  
Attn: General Manager  
Telephone: 760-339-9477

With a copy to:  
Horton, Knox, Carter & Foote  
895 Broadway  
El Centro, California 92243  
Attn: John P. Carter, Chief Counsel  
Telephone: 760-352-2821
To Authority: San Diego County Water Authority
3211 Fifth Avenue
San Diego, California 92103
Attn: General Manager
Telephone: 619-682-4202

With a copy to: San Diego County Water Authority
3211 Fifth Avenue
San Diego, California 92103
Attn: General Counsel
Telephone: 619-682-4113

(a) A correctly addressed notice that is refused, unclaimed, or
undeliverable because of an act or omission by the Party to be notified will be deemed
effective as of the first date that that notice was refused, unclaimed, or deemed
undeliverable by the postal authorities, messenger, or overnight delivery service.

(b) A Party may change its address by giving the other Party notice of
the change in any manner permitted by this Agreement.

18.7 Entire Agreement. This Agreement (including the exhibits and schedules
attached to this Agreement) constitutes the final, complete, and exclusive statement of the terms
of the agreement between the Parties pertaining to the transfer of Conserved Water and
supersedes all prior and contemporaneous understandings or agreements of the Parties. Neither
Party has been induced to enter into this Agreement by, nor is either Party relying on, any
representation or warranty outside those expressly set forth in this Agreement.

18.8 Time of the Essence. Time is of the essence of and under this Agreement
and of every provision thereof.

18.9 Modification. This Agreement may be supplemented, amended, or
modified only by the agreement of the Parties. No supplement, amendment, or modification will
be binding unless it is in writing and signed by both Parties.

18.10 Waiver. No waiver of a breach, failure of condition, or any right or
remedy contained in or granted by the provisions of this Agreement is effective unless it is in
writing and signed by the Party waiving the breach, failure, right, or remedy. No waiver of a
breach, failure of condition, or right or remedy is or may be deemed a waiver of any other breach,
failure, right or remedy, whether similar or not. In addition, no waiver will constitute a continuing
waiver unless the writing so specifies.

18.11 Joint Defense. The Parties agree to proceed with reasonable diligence and
use reasonable best efforts to jointly defend any lawsuit or administrative proceeding challenging
the legality, validity, or enforceability of any term of this Agreement, or any Party's right to act in
accordance with any of the terms of this Agreement.
IN WITNESS WHEREOF, the IID and the Authority have executed this Agreement as of the day and year first written above.

"IID"

IMPERIAL IRRIGATION DISTRICT,
a California irrigation district

By: 
Lloyd W. Allen
Its: President

By: 
Bruce Kuhn
Its: Vice-President

By: 
John Penn Carter
Its: Secretary

Approved as to form:

By: 
John Penn Carter
Its: Chief Counsel

"Authority"

SAN DIEGO COUNTY WATER AUTHORITY,
a California county water authority

By: 
Christine M. Frahm
Its: Chairman

By: 
Joseph Parker
Its: Vice-Chairman

By: 
Harold W. Ball
Its: Secretary

Approved as to form:

By: 
Daniel S. Hentschke
Its General Counsel
EXHIBITS TO AGREEMENT FOR TRANSFER OF CONSERVED WATER
Exhibit A: Base Contract Price

This exhibit illustrates the calculation of the "Base Contract Price." The Base Contract Price is calculated by determining the MWD Full Water Rate, Base Wheeling Rate, Applicable Discount Rate, and Actual Wheeling Rate (§ 5.1). The Base Contract Price is subject to a Price Redetermination (§ 5.3). For an illustration of the impact of a Price Redetermination on the Base Contract Price, see Exhibit E: Price Redetermination.

**Base Contract Price**

The formula for the Base Contract Price is as follows (see § 5.1):

\[
\text{Base Contract Price} = (\text{MWD Full Water Rate} - \text{Base Wheeling Rate}) \times (1 - \text{Applicable Discount Rate}) + 50\% (\text{Base Wheeling Rate} - \text{Actual Wheeling Rate})
\]

The Applicable Discount Rate is governed by the following schedule:

<table>
<thead>
<tr>
<th>Agreement Year</th>
<th>Discount Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.2500</td>
</tr>
<tr>
<td>2</td>
<td>.2389</td>
</tr>
<tr>
<td>3</td>
<td>.2278</td>
</tr>
<tr>
<td>4</td>
<td>.2167</td>
</tr>
<tr>
<td>5</td>
<td>.2056</td>
</tr>
<tr>
<td>6</td>
<td>.1944</td>
</tr>
<tr>
<td>7</td>
<td>.1833</td>
</tr>
<tr>
<td>8</td>
<td>.1722</td>
</tr>
<tr>
<td>9</td>
<td>.1611</td>
</tr>
<tr>
<td>10</td>
<td>.1500</td>
</tr>
<tr>
<td>11</td>
<td>.1350</td>
</tr>
<tr>
<td>12</td>
<td>.1200</td>
</tr>
<tr>
<td>13</td>
<td>.1050</td>
</tr>
<tr>
<td>14</td>
<td>.0900</td>
</tr>
<tr>
<td>15</td>
<td>.0750</td>
</tr>
<tr>
<td>16</td>
<td>.0625</td>
</tr>
<tr>
<td>17 and thereafter</td>
<td>.0500</td>
</tr>
</tbody>
</table>

The calculation of each component is as follows:

**MWD Full Water Rate**

The definition of the MWD Full Water Rate is as follows (§ 5.1):

---

1 Terms in **bold** are defined in § 1.1 of the Agreement.
MWD Full Water Rate = Untreated Full Service Water Rate + Per AF valuation of other Volume-Sensitive Charges + Non-Volume Sensitive Charges + the Four-Year Rolling Average of (the quantity of Authority purchases from MWD + the quantity of IID Conserved Water transferred to the Authority)

To find the per AF value for each addend, examine the most current MWD Board resolutions setting MWD's rates, charges, fees and property taxes in effect as of the date of the calculation of the MWD Full Water Rate.

(a) Untreated Full Service Water Rate and Volume-Sensitive Charges. Suppose an MWD Board resolution adopted water rates as follows.²

<table>
<thead>
<tr>
<th>Class of Service</th>
<th>Rate or Charge</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full Service — Untreated</td>
<td>$349/AF</td>
</tr>
<tr>
<td>Full Service — Treated</td>
<td>$431/AF</td>
</tr>
<tr>
<td>Agricultural — Untreated</td>
<td>$236/AF</td>
</tr>
<tr>
<td>Agricultural — Treated</td>
<td>$294/AF</td>
</tr>
<tr>
<td>Seasonal Storage, Long-Term — Untreated</td>
<td>$233/AF</td>
</tr>
<tr>
<td>Seasonal Storage, Long-Term — Treated</td>
<td>$290/AF</td>
</tr>
<tr>
<td>Seasonal Storage, Shift — Untreated</td>
<td>$244/AF</td>
</tr>
<tr>
<td>Seasonal Storage, Shift — Treated</td>
<td>$301/AF</td>
</tr>
<tr>
<td>Recycled</td>
<td>$113/AF</td>
</tr>
</tbody>
</table>

The definition of the MWD Full Water Rate includes only the rate for Untreated Full Service and other Volume-Sensitive Charges. Volume-Sensitive Charges specifically exclude charges for treated, agricultural, seasonal storage, and recycled water service (§ 5.1). Under this example, MWD is not levying a rate or charge within the definition of Volume-Sensitive Charges. Therefore, while other Volume-Sensitive Charges could be included in the MWD Full Water Rate, none would be under this example and the entry for Volume-Sensitive Charges is $0 per

² This example is based on "Recommended Water Rates for Fiscal Year 1997-98 to Become Effective January 1, 1998 and Resolutions to Impose Charges," memorandum dated February 25, 1997 from MWD General Manager to MWD Board of Directors.
AF. Therefore, only the $349 per AF rate for Untreated Full Service would be included in the
calculation of the MWD Full Water Rate for the first two addends.

(b) **Non-Volume Sensitive Charges.** MWD in 1997 levied three types of rates and
charges that must be analyzed for inclusion as Non-Volume Sensitive Charges for the calculation
of the MWD Full Water Rate.

First, the Readiness-To-Serve ("RTS") charge for 1997 did not vary by the quantity of
water delivered by MWD to the Authority in 1997. Thus, the RTS charge does not meet the
definition of Volume-Sensitive Charges (§ 5.1), and is not one of the charges or taxes specifically
excluded from the definition of Non-Volume Sensitive Charges (§ 5.1). Therefore, the RTS
charge is includable in the MWD Full Water Rate as part of the Non-Volume Sensitive Charges.

If the MWD Board resolution adopting the RTS obligation of MWD member agencies stated that
the Authority's obligation for the 1997 year was $24,782,000, regardless of the method MWD
uses to collect this obligation, the full $24,782,000 is included as part of the Non-Volume
Sensitive Charges.

Second, MWD property taxes levied below the **Property Tax Rate Limit** are excluded
from the calculation of Non-Volume Sensitive Charges (§ 5.1). Therefore, it is necessary to
check whether the property taxes levied by MWD equals or exceeds the Property Tax Rate Limit.
This requires examination of the MWD Board resolution adopted in August of each year and
supporting staff memorandum authorizing the levy of MWD's property taxes, as well as
confirmation that MWD calculates its property tax limit under MWD Act § 124.5 consistent with
the definition of the Property Tax Rate Limit in the Agreement (§ 5.1). In fiscal year 1997-98, for
example, suppose MWD levied net property taxes of $84.3 million, while its net property tax limit
was $100.1 million. The calculation conforms with the definition of the Property Tax Rate Limit

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3 As allowed under Section 4402 of the Metropolitan District Administrative Code, MWD
allows its member agencies to pay their RTS obligation by having MWD levy a "standby
charge" on parcels within the service area of the member agency. Other than for the specific
exclusions stated in the definition of Non-Volume Sensitive Charges (§ 5.1), all Non-Volume
Sensitive Charges are included, regardless of the method MWD uses to collect the charges
(§ 5.1).
in the Agreement.\textsuperscript{4} MWD's levied property taxes for the 1997-98 example fall below the defined Property Tax Rate Limit, therefore MWD's property taxes are excluded from the calculation of the Non-Volume Sensitive Charges and from the MWD Full Water Rate.\textsuperscript{5}

Third, MWD connection maintenance charges paid in excess of the Excluded Connection Maintenance Charges, i.e., in excess of $200 cubic feet per second ("cfs") of connected capacity per month are included in the calculation of the MWD Full Water Rate (see § 5.2). In 1997, for example, MWD levied a charge of $50 per cfs of capacity per month. Therefore, the amount of connection maintenance charges in excess of the Excluded Connection Maintenance Charges is zero.\textsuperscript{6}

Thus, under the 1997 example, Non-Volume Sensitive Charges total $24,782,000. If the Authority's Four-Year Rolling Average of purchases from MWD plus transfers from IID totalled

\textsuperscript{4} See MWD Board Resolution of August 19, 1997, and supporting staff memorandum dated August 5, 1997. If the MWD limit does not conform with the definition of the Property Tax Rate Limit, then the MWD limit must be calculated according to the definition.

\textsuperscript{5} If MWD levied property taxes in excess of the Property Tax Rate Limit, then the amount of revenues included in the calculation of the MWD Full Water Rate would be as follows:

- \textit{Step 1:} Calculate the amount by which MWD's levied property taxes exceed the Property Tax Rate Limit. The excess property tax rate (EPTR) equals \((MWD \text{ property tax levies} - \text{Property Tax Limit}) \div \text{total taxable assessed valuation of MWD service area for the applicable fiscal year.}\)

- \textit{Step 2:} Calculate the amount of property taxes included as a Non-Volume Sensitive Charge. The amount of included property taxes equals the EPTR times the taxable assessed valuation of the Authority service area for the applicable fiscal year.

For example, suppose that MWD levies property taxes of $120 million (a property tax rate of .0070 percent on a total taxable assessed valuation of $15 billion), while the Property Tax Rate Limit is only $100 million. MWD's property tax levies would exceed the Property Tax Rate Limit by $20 million. The excess property tax rate would be .0013 ($20 million divided by $15 billion). If the taxable assessed valuation of the Authority equaled $3.75 billion, then a total of $5 million of property taxes (.0013 multiplied by $3.75 billion) would be included in the calculation of Non-Volume Sensitive Charges.

\textsuperscript{6} If MWD levies a connection maintenance charge in excess of $200 per cfs of capacity per month, then the amount of revenues included as connection maintenance charges in the calculation of Non-Volume Sensitive Charges would be the following: \((MWD \text{ connection maintenance charges} - \text{Excluded Connection Maintenance Charges})\), multiplied by the Authority's capacity. If the MWD charge were $300 per cfs of capacity per month and the Authority's capacity were 1,000 cfs, then a total of $1.2 million of connection maintenance charges \((12 \times ($300 \text{ per cfs} - $200 \text{ per cfs}) \times 1,000 \text{ cfs of capacity})\) would be included in the calculation of Non-Volume Sensitive Charges.
485,000 AF, then Non-Volume Sensitive Charges would total $51 per AF calculated as

\[ \frac{24,782,000}{485,000} \).

(c) **MWD Full Water Rate.** The example MWD Full Water Rate would total $400 per AF, determined as the Untreated Full Service Water Rate of $349 per AF plus $0 per AF of Volume-Sensitive Charges plus $51 per AF of Non-Volume Sensitive Charges.

**Base Wheeling Rate**

The calculation of the Base Wheeling Rate is dependent on the defined costs actually incurred by MWD for the facilities used along the defined **Conveyance Path**.

(a) **Method to Calculate Amortized Amount of Net Book Value for Remaining Useful Life of Each Facility in the Conveyance Path Reach.** The calculation starts with the computation of Net Book Value. The formula is:

\[
NBV_t = \left[ 1 - \frac{(t - 1)}{L} \right] \times Io
\]

where,

- \( NBV_t \) = the remaining undepreciated initial capital investment in year "t"
- \( t \) = the number of years the facility has been in operation (t=1 for the first year of useful life)
- \( L \) = useful life of the facility
- \( Io \) = initial capital investment in the facility

For example, if the initial capital investment in a facility with a useful life of 80 years was $100 million, then the Net Book Value in the tenth year of the facility's useful life would be $88,750,000.

The next step is to calculate the annual amortized amount of the Net Book Value over the remaining useful life of the facility. The formula is:

\[
ANBV_t = NBV_t \times PV_{L-t}
\]

where,

\( ANBV_t \) = annual amortized amount of the Net Book Value for year t

\[ $88,750,000 = \left(1 - \frac{(10 - 1)}{80}\right) \times$100,000,000 = .8875 \times $100,000,000 \]
The present value of receiving an annual payment of $1 starting in year \( t \) for the remaining useful life of the facility using an interest rate equal to the most recent estimate of MWD's historical weighted average cost of capital is:

\[
PV_{L,t} = \text{the present value of receiving an annual payment of $1 starting in year } t \text{ for the remaining useful life of the facility using an interest rate equal to the most recent estimate of MWD's historical weighted average cost of capital}
\]

For example, the amortized amount of the $88,750,000 of Net Book Value as of the 10th year of a facility with useful life of 80 years, assuming an average cost of capital of 6.5%, is:

\[
ANBV_t = \frac{88,750,000}{15.20} = 5,838,816
\]

If the rated annual capacity of the facility were 1,000,000 AF, then the capital cost component of the Base Wheeling Rate would be $5.84 per AF calculated as \([\frac{5,838,816}{1,000,000 \text{ AF}}] \).

(b) **Method to Calculate Replacement Cost.** The calculation starts with the amortization of any replacement costs caused by the wheeling of Conserved Water. The formula is:

\[
ARC_t = RC_t + PV_L
\]

where,

- \( ARC_t \) = amortized replacement costs incurred in year \( t \)
- \( RC_t \) = replacement cost incurred in year \( t \)
- \( PV_L \) = the present value of receiving an annual payment of $1 starting in year \( t \) for the useful life of the replacement equipment using an interest rate equal to the most recent estimate of MWD's historical weighted average cost of capital

Suppose the wheeling of 100,000 AF in year \( t \) required the replacement of equipment costing $10,000,000. If the wheeling of 100,000 AF used, for example, 1/10th of the equipment's capacity, then the replacement cost incurred in year \( t \) would be $1,000,000. Assuming that the useful life of the equipment were 10 years, then the amortized replacement costs would be:

\[
ARC_t = \frac{1,000,000}{7.19} = 139,105
\]

or $1.39 per AF calculated as \([\frac{139,105}{100,000 \text{ AF}}] \).

---

8. The present value of $1 received over 70 years using an interest rate of 6.5% equals $15.20.

9. The present value of $1 received over 10 years using an interest rate of 6.5% equals $7.19.
(c) **Sample Calculation of Base Wheeling Rate.** The calculation of the Base Wheeling Rate sums the annual total of **Reach Wheeling Charges** divided by the difference between the annual volume of Conserved Water transferred to the Authority and any **Conveyance Losses.** The Reach Wheeling Charge for each Conveyance Path Reach is the sum of the **Conveyance Path Capital Costs** (the undepreciated initial capital investment amortized over the remaining useful life of the facility), **Conveyance Path Operation and Maintenance Costs,** **Conveyance Path Replacement Costs,** and **Conveyance Path Power Costs.**

**Exemplar Base Contract Price**

Assuming a MWD Full Water Rate of $400 per AF, a Base Wheeling Rate of $68.50 per AF, and an Actual Wheeling Rate equal to the Base Wheeling Rate, the Base Contract Price would be calculated as follows:

\[
\text{Base Contract Price} = (\text{MWD Full Water Rate} - \text{Base Wheeling Rate}) \times (1 - \text{Applicable Discount Rate}) + 50\% \times (\text{Base Wheeling Rate} - \text{Actual Wheeling Rate}), \text{ or}
\]

\[
\text{Base Contract Price} = ($400 \text{ per AF} - $68.50 \text{ per AF}) \times (1 - \text{Applicable Discount Rate}) + 50\% \times ($68.50 \text{ per AF} - $68.50 \text{ per AF}), \text{ or}
\]

\[
\text{Base Contract Price} = ($331.50 \text{ per AF}) \times (1 - \text{Applicable Discount Rate})
\]

In the first year water is transferred, the Applicable Discount Rate equals 25%. Therefore, the example Base Contract Price would equal $248.63 per AF calculated as ($331.50) × (75%).

Finally, suppose that a Supplemental Wheeling Charge of $40 per AF was paid in the year for the entire amount of water the Authority diverted at the diversion point, then:

\[
\text{Base Contract Price} = ($400 \text{ per AF} - \$68.50 \text{ per AF}) \times (1 - 25\%) + 50\% \times ($68.50 \text{ per AF} - $108.50 \text{ per AF}), \text{ or}
\]

\[
\text{Base Contract Price} = ($331.50) \times (75\%) + 50\% \times (-$40), \text{ or}
\]

\[
\text{Base Contract Price} = $248.63 - $20, \text{ or}
\]

\[
\text{Base Contract Price} = $228.63
\]
Impact of New Direct Property Charge

Suppose that MWD subsequently collects a rate or charge from a landowner or developer within the jurisdictional boundary of the Authority. The revenues collected by a New Direct Property Charge would affect the calculation of the MWD Full Water Rate in the following way.

Step 1: Amortize any one-time charge collected in a year over a 30-year period at the Authority’s existing cost of capital. The formula is:

\[
\text{ANDPC}_t = \text{CNDPC}_t + PVL
\]

where,

- \(\text{ANDPC}_t\) = amortized amount of one-time New Direct Property Charge collected by MWD in year \(t\)
- \(\text{CNDPC}_t\) = collection of one-time New Direct Property Charge collected by MWD in year \(t\)
- \(PVL\) = the present value of receiving an annual payment of $1 starting in year \(t\) for 30 years using an interest rate equal to the most recent estimate of Authority’s cost of capital

For example, if MWD collected $10 million in one-time charges in a year and the Authority’s cost of capital were 6%, then\(^9\)

\[
\text{ANDPC}_t = \frac{1,000,000}{6\%} + 13.76 = 726,489
\]

Step 2: Calculate the total of the amortized one-time New Direct Property Charges collected in each of the past 30 years. For example, if MWD started collection of New Direct Property Charges two years ago, this calculation must only consider the amortization of collections for the two prior years. If MWD collected $5 million in the first year and $7.5 million in the second year, then the total of the amortized one-time New Direct Property Charges in a year, assuming that the Authority’s cost of capital were 6% in each year, would be:\(^11\)

\[
1,634,601 = 363,245 + 544,867 + 726,489
\]

Step 3: Calculate per AF total of amortized one-time New Direct Property Charge by dividing the total of the amortized one-time New Direct Property Charges by the Authority’s

\(^9\) The present value of receiving $1 for 30 years with an interest rate of 6% equals $13.76.

\(^{11}\) $363,245 = $5 million ÷ 13.76; $544,867 = $7.5 million ÷ 13.76
Four-Year Rolling Average of purchases from MWD and IID. In the above example, if this Four-Year Rolling Average were 485,000 AF, then the per AF total amortized one-time New Direct Property Charge would be $3.37 per AF.\(^\text{12}\)

**Step 4:** Adjust the calculated value of the MWD Full Water Rate by the per AF total amortized one-time New Direct Property Charge according to the following procedure:

- exclude from the calculation until the inclusion of the charge would increase the MWD Full Water Rate by 5%
- include in the calculation once the inclusion of the charge would increase the MWD Full Water Rate by more than 5% but less than 15%, but the increase up to 5% must first be deducted
- include in the calculation one-half the portion increase greater than 15%

If the MWD Full Water Rate were $400 per AF without inclusion of any of the total amortized one-time New Direct Property Charge, then the MWD Full Water Rate used in the calculation of the Base Contract Price for various levels of the per AF total amortized New Direct Property Charge would be.\(^\text{13}\)

\[ \text{\$3.37 per AF = } \frac{1,634,601}{485,000} \text{ AF} \]

\(^\text{12}\) The total amortized New Direct Property Charge would not be included in the MWD Full Water Rate until the charge equaled 5% of the MWD Full Water Rate or, in this example, $20 per AF (5% of $400 per AF). Therefore, the MWD Full Water Rate remains at $400 per AF until the charge reaches $20 per AF. Until the charge equals 15% of the charge, or $60 per AF (15% of $400 per AF), the portion of the charge above $20 per AF is included in the calculation of the MWD Full Water Rate. Therefore, the MWD Full Water Rate increases dollar-for-dollar with the increase in the charge until the charge reaches $60 per AF. When the charge exceeds $60 per AF, one-half of the portion of the charge above $60 per AF is included in the calculation of the MWD Full Water Rate. Therefore, the MWD Full Water Rate increases fifty cents for each dollar increase in the charge above $60 per AF.
<table>
<thead>
<tr>
<th>Total Amortized New Direct Property Charge</th>
<th>MWD Full Water Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>$0</td>
<td>$400</td>
</tr>
<tr>
<td>$10</td>
<td>$400</td>
</tr>
<tr>
<td>$20</td>
<td>$400</td>
</tr>
<tr>
<td>$30</td>
<td>$410</td>
</tr>
<tr>
<td>$40</td>
<td>$420</td>
</tr>
<tr>
<td>$50</td>
<td>$430</td>
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<tr>
<td>$60</td>
<td>$440</td>
</tr>
<tr>
<td>$70</td>
<td>$445</td>
</tr>
<tr>
<td>$80</td>
<td>$450</td>
</tr>
<tr>
<td>$90</td>
<td>$455</td>
</tr>
<tr>
<td>$100</td>
<td>$460</td>
</tr>
</tbody>
</table>

Once the total amortized one-time New Direct Property Charge equals 25% of the MWD Full Water Rate if the charge were fully excluded, the IID may elect to shift the weighting to 100% reliance on Eligible Transactions and to recalculate the result of the immediately preceding Price Redetermination and any future Price Redeterminations. In the above example, the IID election may occur once the total amortized one-time New Direct Property Charge exceeds $100 per AF.

**Impact of Provision of Contributed Power On Base Wheeling Rate**

Either Party may arrange to make available to MWD the quantity of power needed to wheel the Reach Quantity at terms cheaper than MWD's power costs. The provision of any such Contributed Power is an in-lieu payment of MWD's power costs. See § 1.1(ai).

Suppose, for example, that MWD's power costs were $30 per AF, but either IID or the Authority arranges for the provision of Contributed Power at a cost of $20 per AF. The calculation of the Base Wheeling Rate shall include $20 per AF in the calculation of Conveyance Path Power Costs, not MWD's power cost of $30 per AF. Therefore, if the Base Wheeling Rate were $68.50 per AF if MWD power were used to convey the Reach Quantity, then the Base Wheeling Rate would be $58.50 per AF with the use of Contributed Power.
Since the Authority is responsible for the transportation of the Conserved Water, the Authority shall incur the cost of Contributed Power if it arranges for the Contributed Power, or the Authority shall reimburse IID for the costs of Contributed Power if IID arranges for the provision of the Contributed Power.

**Impact of Fundamental Change**

The calculation of the **Replacement Water Rate** is as follows:

*Step 1* - Calculate the escalation provision for the Replacement Water Rate. This escalation provision is defined as follows:

\[
\text{Escalation Provision} = \text{annual percent change in the real MWD Full Water Rate in period prior to the Fundamental Change Date} + \text{annual change in CPI.}
\]

The annual percent change in the real MWD Full Water Rate in the period prior to the Fundamental Change Date equals the annual rate of compound growth in the MWD Full Water Rate in that period, minus the annual rate of compound growth in the CPI in that period.\(^{14}\)

For example, suppose that a Fundamental Change occurs in Agreement Year 20, and the MWD Full Water Rate and the CPI were as follows:

<table>
<thead>
<tr>
<th>Agreement Year</th>
<th>MWD Full Water Rate</th>
<th>CPI</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>$450/AF</td>
<td>250</td>
</tr>
<tr>
<td>20</td>
<td>$600/AF</td>
<td>300</td>
</tr>
</tbody>
</table>

---

\(^{14}\) The formula for the calculation of the annual rate of compound growth is \((P_e/P_b)^{1/T} - 1\), where \(P_e\) = price at the end of the period, \(P_b\) = price at the beginning of the period, and \(T\) = the number of years in the period.
The annual percent change in the real MWD Full Water Rate in the period prior to the Fundamental Change Date would be:\(^\text{15}\)

\[
1.1\% = 2.9\% - 1.8\% 
\]

Therefore, the escalation provision for the MWD Replacement Water Rate would be 1.1\% + annual change in the CPI.

*Step 2 - Calculate the Replacement Water Rate.*

The Replacement Water Rate equals the MWD Full Water Rate in effect at the Fundamental Change Date, escalated by the escalation provisions for the Replacement Water Rate. In the above example, if the CPI increased by 2\% between Agreement Year 20 and Agreement Year 21, the Replacement Water Rate in Agreement Year 21 would equal $618.50 per AF.\(^\text{16}\) In subsequent years, the Replacement Water Rate in an Agreement Year equals the Replacement Water Rate in the prior year escalated by 1.1\% plus the annual change in the CPI during the prior year.

\(^{15}\) \(2.9\% = (600/450)^{1/10} - 1,\) equals \(1.029 - 1,\) equals .029, equals 2.9\%; \(1.8\% = (300/250)^{1/10} - 1,\) equals \(1.018 - 1,\) equals 0.18, equals 1.8\%.

\(^{16}\) \$618.50 per AF = $600 per AF \times (1+2\% + 1.1\%).
Exhibit B: Shortage Sharing Calculations

This exhibit illustrates the calculation of the Shortage Sharing provisions (Article 11) when the Secretary\(^1\) declares a shortage of Colorado River water of sufficient magnitude to require a reduction in the quantity of water available under IID's priority 3 right.

**Assumptions**

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>IID's Priority 3 Forbearance Cap</td>
<td>3,100,000 AF</td>
</tr>
<tr>
<td>Quantity of Conserved Water</td>
<td>200,000 AF</td>
</tr>
<tr>
<td>Authority Pro Rata Share(^2)</td>
<td>6.452%</td>
</tr>
<tr>
<td>Total Annual Reduction</td>
<td>100,000 AF</td>
</tr>
</tbody>
</table>

**Allocation of Required Annual Reduction**

<table>
<thead>
<tr>
<th>Authority</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Authority</td>
<td>6,452 AF</td>
</tr>
<tr>
<td>IID</td>
<td>93,548 AF</td>
</tr>
<tr>
<td>Total</td>
<td>100,000 AF</td>
</tr>
</tbody>
</table>

**Allocation of Allowed Annual Use of Water under IID's Priority 3 Right During Shortage**

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual amount transferred to Authority(^4)</td>
<td>193,548 AF</td>
</tr>
<tr>
<td>Annual amount of water available to IID(^5)</td>
<td>2,806,452 AF</td>
</tr>
</tbody>
</table>

---

1. Terms in bold are defined in § 1.1 of the Agreement.
2. Pro rata share = Quantity of Conserved Water + IID's Priority 3 Forbearance Cap.
3. Authority pro rata share multiplied by required reduction.
4. Annual quantity of Conserved Water (200,000 AF) less Allocation of Required Annual Reduction to Authority (6,452 AF).
5. IID's Priority 3 Forbearance Cap (3,100,000 AF) less annual quantity of Conserved Water (200,000 AF), less Allocation of Required Annual Reduction to IID (93,548 AF).
Allocation of Allowed Use of Water if Shortage Declaration Becomes Effective During a Water Year

- Amount remaining for transfer to Authority for remainder of water year: 193,548 AF less the Authority's actual diversions during the water year before the shortage declaration became effective

- Amount remaining for use by IID for remainder of water year: 2,806,452 AF less IID's actual diversions (less return flows) during the water year before the shortage declaration became effective
Exhibit C: Shortage Sharing Procedures

This exhibit describes the procedures available to the Authority and IID under Article 11 of the Agreement when normal contract deliveries from IID to the Authority would or might be reduced due to a reduction, or threatened reduction, in IID's allowed diversions (less return flows) under its priority 3 right due to a Lower Colorado River shortage.

Notice of Impending Shortage and Supplemental Agreement

A Notice of Impending Shortage may be sent by either Party under the criteria described in § 11.2. Following a Party's receipt of a Notice of Impending Shortage, the Parties will meet and confer within 45 days to discuss and negotiate a mutually acceptable Supplemental Agreement for the transfer of Conserved Water to the Authority. If the negotiations are successful the Parties will execute and implement a Supplemental Agreement. The Supplemental Agreement will remain in effect according to its terms, except that it shall be void and have no force and effect if a normal or surplus condition is declared without a shortage condition having been declared, or a normal or surplus condition having been declared after a shortage condition, but the declared shortage never caused a reduction in IID's priority 3 diversions (less return flows). If a Supplemental Agreement has not been reached within 60 days after delivery of the Notice of Impending Shortage, the Authority shall have a right of first refusal for any IID contract for the delivery of Conserved Water with a third party that is executed after the Notice of Impending Shortage and that provides for water to be transferred sooner than 18 months from execution, so long as the Secretary has not yet declared that the Colorado River is in a normal or surplus flow condition.

1 Terms in bold are defined in § 1.1 of the Agreement.
For example, assume that the seasonal runoff for the Colorado River forecast by the BOR in cooperation with the National Weather Service on April 2 of Year X indicates that during the next 12 months the unregulated inflow into Lake Powell will be less than 8,800,000 AF, and the usable storage in Lake Mead as of the date of the forecast is less than 15,000,000 AF. A Notice of Impending Shortage may then be sent by one of the Parties and the Parties would begin negotiations and attempt to reach a Supplemental Agreement within 60 days.

**Authority Right of First Refusal on IID Shortage Contracts**

Assume that the Colorado River forecast and hydrology do not change sufficiently to result in the Secretary's declaration of a normal or surplus flow condition and that the Parties have not entered into a Supplemental Agreement within 60 days of delivery of the Notice of Impending Shortage. In the event IID were to negotiate a contract with XYZ water district for the delivery of 20,000 AF of Conserved Water (Shortage Contract) over a 24-month period at the price of $600 per AFY, it would then be submitted to IID's Board for approval and execution.

Within five days of the later of the IID Board's approval or execution of the Shortage Contract, IID would be required to send a copy of the Shortage Contract and a Notice of Right to Exercise Right of First Refusal to the Authority. Having received the Notice and a copy of the Shortage Contract, the Authority would then have the option to exercise its right of first refusal by stepping into the position of the XYZ water district. Therefore, the Authority would be obligated to pay $600 per AFY for 20,000 AFY over the entire 24-month period.

If the Authority failed to exercise its right of first refusal within 45 days of its receipt of the Notice of Right to Exercise Right of First Refusal, then IID would be free to deliver the Conserved Water to XYZ under its Shortage Contract without regard to the Authority's projected or existing shortage under this Agreement.
However, the Authority's right of first refusal would not be extinguished with respect to newly negotiated contracts between IID and XYZ or other third parties. For example, assume that the Secretary fails to declare a normal or surplus year for the balance of the Agreement Year. If IID were to negotiate a second Shortage Contract with ABC water district for 40,000 AF to be delivered over a period of 12 months at a price of $300 per AF, the Authority would have the option of stepping into the position of ABC under the terms agreed to by IID and ABC.

The Authority's right of first refusal would continue and be applicable to any of IID's Shortage Contracts until a normal or surplus condition is declared. Declaration of a normal or surplus condition would not affect any Shortage Contract for which the Authority has exercised a right of first refusal, unless such were the case according to the terms and conditions of the contract.

**Cover Contracts**

The Authority has one other option, execution of a **Cover Contract** with specified IID reimbursement obligations, if all of the following apply:

- The Authority is experiencing a pro rata reduction of Primary Transfer Water under the terms of § 11.1;
- The Authority and IID have not entered into a Supplemental Agreement which provides an amount of water equal to or greater than the amount of the Authority's pro rata reduction;
- The Authority has not exercised a right of first refusal for one or more Shortage Contracts which provide in total an amount of water equal to or greater than the amount of the Authority's pro rata reduction;
- A Notice of Waiver has been sent by either Party; and
The Authority Shortage declared by the Authority has a percentage magnitude greater than or equal to 30%.

If these conditions apply, the Authority may elect to acquire water (Cover Water) from a third party or parties through a Cover Contract(s) in order to make up partially or entirely the pro rata reduction in Primary Transfer Water only which would occur pursuant to § 11.1. (This provision does not apply to making up any pro rata reduction in Additional Available Water for which the Authority and IID have contracted.) Within five days of Authority Board approval of a Cover Contract, the Authority shall deliver a copy of the contract to the IID.

Provided that a Notice of Waiver has been previously sent and that an Authority shortage condition with a percentage magnitude of 30% or greater has been declared by the Authority Board, the IID shall reimburse the Authority for 50% of the difference between the cost per acre foot of the Cover Water and the water being transferred to the Authority by the IID under the Agreement. However, the IID's obligation to pay extends only to the actual amount of water equal to the Authority's pro rata reduction in Primary Transfer Water, and under no circumstances shall exceed $100 per AF multiplied by 15% of the Primary Transfer Water that would have been transferred to the Authority but for the shortage condition. If the IID incurs a reimbursement obligation, it shall terminate upon declaration of a normal or surplus condition.

For example, assume the following:

- During a normal or surplus condition, the Authority receives 200,000 AFY in Primary Transfer Water under this Agreement.

- During a normal or surplus condition, the Authority also receives 50,000 AFY in Additional Available Water, for a total amount of water under this Agreement of 250,000 AFY.
The cost of water to the Authority under this Agreement, using the methodology to determine cost of water under an *Eligible Transaction* in the Price Redetermination process (which includes cost of delivery to the Authority service area) is $400 per AF.

Due to the declaration of a shortage condition, IID’s diversions (less return flows) under its priority 3 right has been reduced from 3.1 million AFY to 2.8 million AF.

The Authority and IID have not entered into a Supplemental Agreement, the Authority has not exercised a right of first refusal on an IID Shortage Contract, a Party has previously sent a Notice of Waiver, and the Authority Shortage is greater than or equal to 30%.

The Authority has executed a contract with Alpha Water Company to provide 50,000 AFY of water at a net contract value of $500 per AF based on the same methodology as used for an *Eligible Transaction* in a Price Redetermination.

Within five days of Board approval, the Authority has delivered a copy of the contract to the IID as a Cover Contract.

Under these circumstances, the IID obligation to reimburse the Authority is computed as follows:

1. The Authority reduction in Primary Transfer Water is calculated as

   $200,000 \text{ AF (Primary Transfer Water amount)} \div 3,100,000 \text{ AF} \times 300,000 \text{ AF (the amount of the shortage)} = 19,355 \text{ AFY.}$

   Using a similar formula, the reduction in the amount of Additional Transfer water is $50,000 \div 3,100,000 \times 300,000$, which equals 4,839 AFY. The total Authority reduction, then, is 24,194 AFY.
2. IID's obligation to reimburse is limited. First, the annual reimbursement obligation applies only to the amount of the pro rata reduction in Primary Transfer Water, or 19,355 AFY. Second, the obligation applies to only a maximum of 15% of the normal amount of Primary Transfer Water, which would be 15% of 200,000, or 30,000 AFY. The 19,355 AF reduction does not reach this limit. Third, the IID reimbursement obligation per AF cannot exceed $100. In our example, the per AF reimbursement obligation is the net contract value of the Cover Water, $500 per AF, minus the then applicable price of Primary Transfer Water under the Agreement, $400 per AF, or $100, multiplied by 50%, which equals $50 per AF. The $50 per AF amount does not exceed the $100 per AF limit.

3. The IID's reimbursement obligation, therefore, is $50 \times 19,355 \text{ AFY}, or $960,775 per year. The reimbursement obligation would terminate upon a declaration of a normal or surplus condition.
Exhibit D: Shortage Premium

This exhibit describes the procedures to be followed in determining whether a Shortage Premium is to be paid by the Authority to IID, the time during which the premium is to be paid, and the amount of the premium to be paid.

Example of Application of the Shortage Premium

Suppose the following occurred during the period that IID is transferring water to the Authority under the Agreement:

- The DWR reported Critical Years for the years 2001 and 2002.


- An Authority Shortage was declared in the amount of 13% on February 10, 2002. The Authority Shortage was increased to 28% on April 5, 2002. The Authority Shortage was reduced to 4% on June 20, 2002, and was terminated on August 1, 2002.

- For the entire period covered in this example, the Base Contract Price was $260 per AF, and no Price Redetermination had occurred.

Given the above conditions, the Authority would pay Shortage Premiums as follows:

1. For the year 2001, the only Shortage Premium circumstance was the existence of a Critical Year. Therefore, the Shortage Premium for that period would be 5% of $260 (the Base Contract Price), or $13 per AF. The total Agreement price would then be $273 per AF.

---

Terms in bold are defined in § 1.1 of the Agreement.

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2. Beginning on January 1, 2002, there was a declaration of shortage on the Lower Colorado River. Although this circumstance by itself would yield a Shortage Premium of 25%, because a reported Critical Year was also in existence at the same time, the Shortage Premium would increase to 30%, or $78 per AF, beginning on January 2, 2002.

3. The Authority had declared an Authority Shortage of 13% beginning on February 10, 2002, rising to 28% on April 5, decreasing to 4% on June 20, and terminating on August 1, 2002. During the time of the 13% shortage, a 15% percent premium would apply but for the fact that a 30% premium was already applicable pursuant to the other circumstances which then existed. Because the greater applicable premium applies, the 30% premium would continue during this period. However, for the period April 5 to June 20, the Authority Shortage is 28%, which, according to the Shortage Premium Table, would yield a Shortage Premium of 50%. Because the 50% premium is now the greater premium, it would apply from April 6 to June 20 and that 50% premium would equal $130 per AF. When the Authority Shortage was reduced to 4% on June 20, the shortage declaration for the Lower Colorado River had by that time been terminated. Therefore, the conditions present on June 20 are the continuing reported Critical Year and the 4% Authority Shortage. Since a 4% Authority Shortage yields no premium as per the Shortage Premium Table, the Critical Year premium of 5% would again apply. The 5% premium would apply from June 21 through the end of the year 2002.
Exhibit E: Price Redetermination

This exhibit explains the methods and calculations necessary to implement the Price Redetermination provisions contained in Article 5 of the Agreement. A Price Redetermination uses information from all Transactions that satisfy a defined set of Eligibility Criteria in order to judge the reasonableness of the price in effect under this Agreement at the date of the Price Redetermination. If there is sufficiently reliable information to conclude that an adjustment in the price is warranted, the Price Redetermination will adjust the price in a specific way. As explained below, the degree of reliance on Price Redetermination increases with the number of Eligible Transactions, the more similar the characteristics of the Eligible Transactions are to the characteristics of the IID Conserved Water (supply reliability, water quality, and other factors) and the larger the scale of the California water market.

This exhibit is organized as follows: (1) the purpose of Price Redetermination, (2) timing and frequency, (3) the Eligibility Criteria for Transactions, (4) the method used to judge the reasonableness of the price in effect at the date of the Price Redetermination, and (5) the adjustments, if any, to the price as a result of the Price Redetermination. For illustration purposes, sample calculations are provided for a hypothetical Price Redetermination.

1. **Purpose of Price Redetermination**

The IID and the Authority share two common goals for Price Redetermination:

1. Assure that the price in effect under the Agreement reflects a reliable estimate of the market value of the IID Conserved Water; and

2. Reduce as much as possible the opportunity for arbitrary decision-making in a Price Redetermination.

Both Parties understand, however, that it may be difficult to assess the actual market value of the IID Conserved Water.

---

1 Terms in bold have the same definition as in § 1.1 of the Agreement.
Given the potentially unique attributes of the IID Conserved Water (such as the seniority of the IID's water rights) and the potentially unique terms of the Agreement (such as the large quantity of water being transferred and the long term of the Agreement), there may be few, if any, directly comparable Transactions. Therefore, Price Redetermination must include Transactions that involve water and contract terms that are not directly comparable to the IID Conserved Water and the non-financial terms of the Agreement. At the same time, given the lack of a developed water market in California, there may be too few available Transactions to generate a reliable estimate of the market value of the IID Conserved Water.

Given the common goals and challenges for Price Redetermination, the IID and the Authority recognize that a Price Redetermination will require the exercise of reasonable judgment in making the redetermination calculations. At the same time, and critical to the acceptability to both the IID and the Authority with a Price Redetermination, the IID and the Authority agree that there must be specific rules and guidelines to be followed in every Price Redetermination. To this end, a Price Redetermination involves a formulaic approach for the purpose of limiting the scope of discretion exercised by anyone undertaking the redetermination calculations.

2. **Timing and Frequency**

The first Price Redetermination may not occur sooner than 10 years after the Agreement Benchmark Date, provided that two conditions, among others, are also satisfied (see § 5.3(a):

1. There are at least 10 Eligible Transactions; and
2. The annual volume of water projected to be transferred in California over the next 10 years immediately following the Price Redetermination exceeds a defined threshold (see Section 5 below).

For example, if the Agreement Benchmark Date is the year 2000, the first Price Redetermination could not occur earlier than the year 2011, provided that there are at least 10 Eligible Transactions and the defined threshold for the California water market is exceeded. If there are not at least 10 Eligible Transactions until the year 2013 and the annual volume of water transferred from Qualifying Transactions in California does not exceed the defined threshold until the year 2015, the first Price Redetermination could not occur earlier than the year 2015 (the
last date at which all of the above conditions for the first Price Redetermination are satisfied, assuming that there are still at least 10 Eligible Transactions in the year 2015).

The timing of subsequent Price Redeterminations will depend on the number of Eligible Transactions used in the previous Price Redetermination. If the previous Price Redetermination was based on 16 or more Eligible Transactions, then the next Price Redetermination could be no sooner than 10 years. If the previous Price Redetermination were based on 15 or fewer Eligible Transactions, then the next Price Redetermination could occur when 20 or more Eligible Transactions become available or 10 years, whichever is earlier.

For example, suppose that the first Price Redetermination occurred in the year 2015. If this Price Redetermination was based on 16 or more Eligible Transactions, then the next Price Redetermination could not be earlier than the year 2026. Alternatively, if the first Price Redetermination was based on 15 or fewer Eligible Transactions, then the next Price Redetermination could be at the year 2026 or when 20 Eligible Transactions become available, whichever is earlier. If 20 Eligible Transactions became available by the year 2021, then the next Price Redetermination could occur that year.2

3. **Eligibility Criteria**

Transactions are eligible for inclusion in a Price Redetermination, provided that they satisfy all of the following criteria:

1. **Information Availability.** In order for a Transaction to be an Eligible Transaction, the Parties must be able to obtain a complete copy of the underlying contract and other information about the Transaction, transferor and transferee sufficient to evaluate the satisfaction of other Eligibility Criteria.

2. **Voluntary Negotiated Transactions.** The Transaction must be the result of voluntary negotiations between a willing transferor and a willing transferee where neither

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2 Since there are 20 Eligible Transactions in this example, the condition that there be at least 10 Eligible Transactions is automatically satisfied.
party was compelled or coerced into agreeing to the Transaction or to any of the terms or conditions of the Transaction. If a voluntary Transaction has uniform terms and conditions with other Transactions not the result of independent, arms-length bargaining, then that Transaction and all other identical Transactions with a Reference Date in the same Calendar Year are to be aggregated and counted as a single Transaction.

3. **Geography.** The water or water rights that are transferred by the Transaction must be capable of being used for domestic, municipal, industrial or agricultural use within the geographic territory defined as the Lower Colorado River Basin.

4. **Noncontingent Transaction.** All contingencies to the performance by both parties to the Transaction must have been removed before the start of the Price Redetermination.

5. **Reference Date.** The date that the Transaction became a binding contract between the parties to the Transaction which date shall be no more than 10 years prior to the Agreement Year of the start date of the Price Redetermination, unless the circumstances identified in Section 4 below exist, but in no event longer than 15 years.

6. **Transaction Term.** A Transaction must have a minimum term for annual water transfers of five years.

7. **Minimum Quantity.** A Transaction must involve: (A) an average annual transfer quantity of no less than 5,000 AF for the term of the Transaction; (B) a cumulative transfer quantity over the term of the Transaction of no less than 50,000 AF, and (C), a frequency of annual water transfers over the term of the Transaction equal to or greater than 75% of the years of the term (the number of years water is transferred divided by the contract term, rounded to the nearest percent).

8. **Feasibility.** The IID must face no legal, technical or other barrier that would preclude it from participating in the Transaction as a transferor and realizing the full benefit to the transferor of the terms and conditions of the Transaction; or the Authority
must face no legal, technical or other barrier that would preclude it from participating in the Transaction as a transferee and realizing the full benefit to the transferee of the terms and conditions of the Transaction.

9. **Water Quality.** Transactions involving water the quality of which, when subjected to ordinary and customary treatment in the MWD or the Authority service areas, would fall within the controlling federal and state maximum contaminant levels for potable water.

10. **Excluded Transactions.** Any Transaction involving a transfer under an Adjunct Contract with MWD or CVWD; any transfer under the IID/MWD 1988 Agreement; or any transfer of water conserved from the All-American Canal or the Coachella Canal.

A. **Information Availability:** A Price Redetermination involves extensive financial analysis of agreements and comparisons to other Eligible Transactions. Therefore, it is imperative that sufficient information be available about the contract, its implementation, and the water source to make the necessary calculations. At a minimum, a copy of the contract is required. If the terms and conditions are not sufficiently self-evident to assess the Eligibility Criteria of the Transaction, then information about the actual implementation of the agreement and/or the circumstances of the party may prove necessary.

Consider, for example, an agreement that specifies a delivery of 5,000 AF annually for a period of 15 years, but water delivery is conditioned on the water being "surplus" to the needs of the transferor. To meet the minimum quantity cumulative test of 50,000 AF, water must be delivered in at least 10 years. To meet the minimum quantity frequency test of delivering water at least 75% of the years, water must be delivered in at least 12 years. Whether or not this contract satisfies the minimum quantity Eligibility Criteria cannot be determined by an examination of the

---

3 If water were delivered in only 11 years, then the frequency of annual deliveries would be 73.3%, which when rounded to the nearest percent would be only 73% of the years. If water were delivered in 12 years, then the frequency of annual deliveries would be 80%, which exceeds the required 75% minimum frequency of annual deliveries.
face of the contract. Instead, one must examine the actual history of deliveries under the contract to assess how, in fact, the contract has been implemented. Supplemental information about the water use needs of the transferor may also provide information that can be used to project deliveries under the agreement.

B. Voluntary Negotiated Transactions: Transactions fail the Eligibility Criterion for voluntary negotiated Transactions if they do not reflect independent, arms-length bargaining, but instead reflect restrictions originating from legislation, regulatory orders, or other legal actions.

The test for voluntarily negotiated terms requires that a series of separate Transactions undertaken by a single entity involving uniform financial terms and other conditions be counted as a single Eligible Transaction. Consider, for example, the 1991 Emergency Drought Water Bank, in which more than 300 individuals and agricultural agencies sold water to the Water Bank. The price and other conditions were not individually negotiated between the sellers and the Bank. Instead, the Bank posted a take-it or leave-it offer to any and all potential participants. Assuming that the Water Bank satisfied the other Eligibility Criteria, its entire acquisition activity within a Calendar Year would be included as a single Eligible Transaction.

C. Geography: This Eligibility Criterion allows Transactions strictly outside the Lower Colorado River Basin to be included in a Price Redetermination, provided that the water transferred is capable of being used in the Lower Colorado River Basin. For example, if a Fresno County Central Valley Project contractor transferred water to a city in Santa Clara County, this Transaction would be Eligible if the water transfer is capable of being used in the Lower Colorado River Basin.

D. Noncontingent Transaction: All contingencies to the performance by both parties must have been removed before the date of the Price Redetermination. The purpose is to assure that a Price Redetermination only includes information from Transactions that are either actually moving water, or must not overcome any contingencies before water can be moved. Otherwise, incomplete Transactions which may ultimately fail to move any water could be included. Pricing
terms included in failed Transactions do not provide reliable information about the market value of IID Conserved Water.

**E. Vintage:** A Price Redetermination should be based on Transactions that provide useful information about the value of transferred water under market conditions prevailing at the time of the redetermination. Given the twin difficulties of establishing the market value of IID Conserved Water (the lack of strictly comparable Transactions and the lack of a developed water market), the IID and the Authority agree to include Transactions that would otherwise meet the Eligibility Criteria even if they were not negotiated as of the date of the Price Redetermination. By including otherwise Eligible Transactions negotiated at least up to 10 years before a Price Redetermination, the potential source of information is expanded. As described in Section 4(E) below, under certain circumstances Eligible Transactions up to 15 years before the Price Redetermination may be utilized.

An Eligible Transaction must involve financial terms that are the outcome of recent voluntary negotiations. Since the Vintage of an Eligible Transaction may also not exceed between 10 to 15 years, this means that the Price Redetermination will only include Transactions where all contingencies have been removed within the time frame of the allowed Vintages. Therefore, whether a renewal of an agreement would be included in a Price Redetermination will depend on whether the pricing and other financial terms were negotiated at the time of renewal, or within the time frame of the allowed Vintages.

For example, suppose that a transferee and a transferor negotiated a contract for initial and additional deliveries and an initial term and renewal term identical to those in the Agreement. Provided that the agreement satisfies the other Eligibility Criteria, it would be eligible for inclusion in a Price Redetermination held sufficiently close to the removal of contingencies that the Vintage of that agreement fell within the time frame of allowed Vintages. However, if additional deliveries were made at a later time, the additional deliveries are not eligible for inclusion because the financial terms were not independently negotiated at the time the additional deliveries became available. Similarly, the renewal of the agreement after the initial term would not be eligible.
because the financial terms were not independently negotiated at the time of the renewal. In contrast, an extension of the agreement beyond the renewal term would be an Eligible Transaction, because the financial terms would be independently negotiated at that time.

F. **Transaction Term**: An Eligible Transaction must have a minimum term of at least five years. Shorter term Transactions are not deemed sufficiently comparable to provide useful information about the value of water available under a long-term agreement.

G. **Minimum Quantity**: Three separate Eligibility Criteria concerning delivery quantity must be satisfied: (i) annual deliveries must average no less than 5,000 AF over the full Transaction term, (ii) delivery must occur in no less than 75% of the years over the full Transaction term, and (iii) the cumulative deliveries over the full Transaction term must be no less than 50,000 AF. Transactions involving smaller quantities and/or with less frequent deliveries are not deemed sufficiently comparable to provide useful information about the value of IID Conserved Water available under the Agreement.

Just like the example concerning the criterion for information availability, an assessment of whether a Transaction satisfies the quantity criteria starts with an examination of the face of the contract. If the contract includes conditions on deliveries which do not clearly indicate that the Eligibility Criteria will be satisfied, then the analysis must turn to information extrinsic to the contract, such as the actual history of deliveries under the contract and supplemental materials.

H. **Feasibility**: For a Transaction to provide useful information about the market value of IID Conserved Water, it must be feasible for the IID as a transferor or the Authority as a transferee to have been a participant in the Transaction. Otherwise, the Transaction does not provide any useful information about the market value alternatives available to either the IID or the Authority. For example, until interstate marketing of water becomes a reality, Transactions in the Lower Colorado River Basin states other than California are not marketing alternatives for the IID or the Authority. If the BOR adopts regulations allowing interstate marketing, then Transactions in the other states could potentially be Eligible Transactions for inclusion in a Price Redetermination.
The feasibility test involves many factors: legal, technical, and operational. Even if the Authority could have legally entered into an agreement with a transferor in Northern California, for example, conveying the water to the Conveyance Path Terminus must face no technical, operational, or other barriers. Similarly, even if the IID could have legally entered into an agreement with a transferee in Arizona, conveying the water must also be feasible. Even if legally feasible, critical practical questions must also be answered. For example, is third party cooperation needed? What are the necessary wheeling and/or exchange agreements? Do the relevant entities have a history of entering into such agreements? Do they even have available capacity to permit such agreements?

4. Judging the Reasonableness of the Existing Price

A Price Redetermination addresses the fundamental question: how does the price in effect under the Agreement as of the date of the redetermination compare with a reasonable estimate of the market value of IID Conserved Water? As mentioned above, the potentially unique attributes of the IID Conserved Water and the Agreement may mean that there will be only a few somewhat comparable Transactions. While Transactions that are not at all comparable will not be considered, many, if not virtually all, Eligible Transactions will involve water and other terms that differ in a material way.

A Price Redetermination uses information about the value of water evidenced from the Eligible Transactions to provide an estimate of the market value of IID Conserved Water. If there is sufficiently reliable information to conclude that an adjustment in the Agreement price in effect is warranted, then the Price Redetermination will result in an adjustment to the price. There are two questions that must be answered in order to implement this method of Price Redetermination:

1. How to estimate the market value of IID Conserved Water from the valuation of Eligible Transactions; and
2. How to decide whether the estimate of the market value of IID Conserved Water based on the valuation of Eligible Transactions is sufficiently reliable to warrant an adjustment to the price.
These questions require inferences based on the data available from Eligible Transactions: thus, a Price Redetermination relies upon the following statistical analysis:

1. Estimate the market value of IID Conserved Water by determination of a statistically valid relation between the market value of water and Transaction characteristics, including supply reliability, water quality, Vintage, and other characteristics requested by a Party at the time of a Price Redetermination; and

2. Adjust the Price under the Agreement if, as of the date of the Price Redetermination, for the remaining term of the Agreement, the value of the Agreement based on the in-effect price is not consistent with the estimate of the market value of IID Conserved Water.

To assure that the scope for arbitrary decision-making in a Price Redetermination is limited as much as possible, the IID and the Authority agree that the following procedures must be used:

A. Step 1:

- Calculate the per AF present value of the payments for the quantity of transferred water for each Eligible Transaction, adjusted for (i) the differential transportation costs of the Authority conveying the water available under the Agreement versus the costs the Authority would incur from conveying the water available under the Eligible Transaction, or (ii) for the differential transportation costs of the transferee for conveying the water if acquired from the IID versus the costs of the transferee for conveying the water available under the Eligible Transaction; depending on the feasibility test for the Authority as a transferee or the IID as a transferor, respectively.

The calculation of the per AF present value of contract payments, adjusted for differential transportation costs proceeds as follows:

1. Calculate the present value of the contract payments; and then

2. Translate the present value of the contract payments into a contract value per AF; and then
3. Calculate the location adjustment per AF to account for differential transportation costs incurred if the water available under an Eligible Transaction would have been delivered under the Agreement.

With the above information, compute the Net Contract Value per AF as follows:

| Net Contract Value per AF = Contract Value per AF - Location Adjustment per AF |

Each step of the calculation is explained below.

**Calculation of the Present Value of the Contract Payment:** The present value calculation starts with projections of payments based on the terms of the contract and assumed costs other than transportation. If future payments are based on future prices, costs, or hydrologic conditions, the projections are based on an analyses of the relevant historical period most reasonably representative of the conditions expected to prevail in the future. In the calculation of present value, the Authority's average cost of capital as of the Reference Date is used as the discount rate.

The required calculations are illustrated by the following hypothetical example. Suppose an Eligible Transaction had a Reference Date seven years before the date of the Price Redetermination and the Transaction had the following terms:

- Term: 22 years
- Annual quantity: 10,000 AF
- Delivery Frequency: 8 out of 10 years
- Price: $175/AF
- Payment Terms: An up front payment equal to 50% of the cumulative contract payments, payable in a lump sum two years before the start date of deliveries; an annual payment of the price per AF less $87.50 per AF as credit for the up-front payment; and an annual adjustment to the annual payments equal to the percentage change in the CPI.
- Other Costs to Buyer: $50 per AF, subject to an annual adjustment equal to the percentage change in the CPI.
The Vintage of this Transaction is seven years; thus actual data would be available for the payments and deliveries made through year 7 of the agreement. Projections would be made for the payments over the remaining term of the agreement.

Table E.1 shows the actual and projected contract payments. The $14 million up-front payment and payments for the initial five years of deliveries would be actual data available at the time of the Price Redetermination. Note that the first five years of deliveries conforms with the assumed contractual provision that 10,000 AF is delivered in 80% of the years. The example assumes that the CPI grew at an annual rate of 2.5%. Therefore, the delivery price started at $87.50 per AF (the $175 per AF contract price less the $87.50 per AF credit for the up-front payment), subject to an annual escalation of 2.5%.

To complete the financial analysis, projections would be made of future deliveries and prices. Since the contract calls for the delivery of 10,000 AF in 80% of the years, the expected annual delivery for the remaining years of the contract would be 8,000 AF (see column 2 of Table E.1). Assuming that the most recent five years of experience for inflation were representative of the conditions reasonably expected to prevail in the future, the delivery price is projected to continue its annual increase at a rate of 2.5%. Therefore, the delivery price is projected to be $99 per AF in year 8, and steadily increase thereafter (see column 4 of Table E.1). Total projected payments are expected to be $791,000 in year 8, increasing steadily thereafter (see column 6 of Table E.1). If the buyer's long-term cost of capital as of the Reference Date were 5.5%, the present value of contract payments for this Eligible Transaction is $27,744,773 (see Table E.1).

Translation of the Present Value of Contract Payments into Contract Value Per AF: The IID and the Authority anticipate a potentially diverse set of contractual arrangements

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Expected delivery payments in year 8 (the first year of the projection) are less than actual delivery payments in year 7, despite the escalation in the contract price. The reason involves the fact that this Eligible Transaction does not deliver water every year, but only in 80% of the years. While the financial valuation can use data for historical deliveries, the projection of future deliveries must take into account the likelihood of non-delivery.
may emerge with the development of water markets in the Lower Colorado River Basin. Therefore, a benchmark valuation is needed to translate the valuation of contracts with diverse terms into a meaningful estimate of the annual per AF value of water. The Contract Value per AF yields a contract price that, when escalated at the rate of inflation and if paid at the time of water delivery, yields the same present value of contract payments as the present value of the financial payments made under the Eligible Transaction. The formula for the Contract Value per AF is:

\[
\text{Contract Value per AF} = \text{Present Value of Projected Contract Payments of Eligible Transaction} + \text{Present Value of Deliveries}
\]

For the calculation of the present value of deliveries, the Authority's average cost of capital, adjusted for inflation is used.\(^5\)

As illustrated by the application of this formula to the hypothetical Eligible Transaction, the contract value per AF, as defined above, provides a financially meaningful benchmark for translating the contract payment. The Contract Value per AF equals $244.74 per AF ($27,744,773 + 113,364 AF) -- see Table E.1. The Contract Value per AF ($244.74 per AF) exceeds the face price in the contract ($175 per AF) plus the assumed costs ($50 per AF), because the up-front payment of $14 million accelerates payments two years before the start of water delivery. (In fact, the up-front payment accounts for about half the present value of contract payments and assumed costs.) Column 8 of Table E.1 shows the contract payments if a price were paid, subject to CPI escalation, at the time water were delivered starting at the Contract Value per AF of $244.74 per AF. Note that the present value of this payment stream equals $27,744,773, the same present value of the stream of payments and assumed costs under the Eligible Transaction.

\(^5\) The formula of the adjustment is: \(i = (ltcc - \pi) ÷ (1+\pi)\), where \(i\) = the Authority's average cost of capital adjusted for inflation, \(ltcc\) = the Authority's average cost of capital, and \(\pi\) = the inflation rate measured by the most recent 10-year average of the actual annual rate of inflation.
Calculation of Location Adjustment per AF. For an Eligible Transaction in which it is feasible for the Authority to participate as a transferee, the location adjustment per AF equals the difference between the transportation costs from conveying the IID Conserved Water under the Agreement to the Conveyance Path Terminus for the term of the Eligible Transaction and the transportation costs from conveying the water available from an Eligible Transaction to the Conveyance Path Terminus.

\[
\text{Location Adjustment per AF} = \text{Transportation Cost per AF for IID Conserved Water available under the Agreement} - \text{Transportation Cost per AF for water available under Eligible Transaction}
\]

The calculation of the transportation costs for water conveyed under either the Agreement or the Eligible Transaction follows the same methodology:

1. *Project Transportation Costs for the Term That Water Is Available Under the Eligible Transaction.*
2. *Calculate the Present Value of Transportation Costs.* Use the projection of future transportation costs and an interest rate equal to the Authority's average cost of capital as of the Reference Date of the Eligible Transaction.
3. *Calculate the Transportation Costs per AF.* The present value of transportation costs divided by the present value of water delivered to the Conveyance Path Terminus. The discount rate equals the Authority's average cost of capital adjusted for inflation. The same method as used to translate the present value of contract payments for an Eligible Transaction into the Contract Value per AF is used to calculate the transportation costs per AF.

For the transportation of Conserved Water under the Agreement, the projections of future transportation costs should be based on the actual terms, conditions, and agreements governing the transportation of that water. For the transportation of water available under an Eligible Transaction, the analysis is more problematic because there may be no transportation arrangements in place to convey the water to the Conveyance Path Terminus. In such circumstance an analysis of the necessary steps to transfer the water both physical and contractual (i.e., by exchange) must be analyzed. The potential for acquisition of necessary capacity in transportation facilities must be determined, as well as the cost of such acquisition. Where the cooperation of third parties is required, but not susceptible to legal compulsion, the price of such
cooperation must also be determined. Historical conduct over the most relevant time period is often the best guide for such analysis, and investigation of all reasonable data must be pursued. Ultimately, judgment must be brought to bear on the question of transportation feasibility and the lawful cost of cooperation or forced wheeling; where there are multiple alternatives that fully satisfy the feasibility and related conditions, the least cost alternative should be utilized.

To illustrate the calculation of the location adjustment, assume that the transportation costs as of the Reference Date of the Eligible Transaction were calculated to be the following:

1. for IID Conserved Water available under the Agreement: $80 per AF; and
2. for water available under the Eligible Transaction: $120 per AF.

The location adjustment would be -$40 per AF calculated as $80 per AF minus $120 per AF.

For an Eligible Transaction in which it is feasible for the IID to participate as a transferor, the location adjustment per AF equals the difference between the cost of conveying the water if acquired from the IID to the transferee of the Eligible Transaction and the cost of the transferee for conveying the water available under the Eligible Transaction. The calculation of these transportation costs uses the methodology described above.

To illustrate the calculation of the location adjustment, assume that the transportation costs as of the Reference Date of the Eligible Transaction were calculated to be the following:

1. for IID Conserved Water available to the transferee: $80 per AF; and
2. for water available under the Eligible Transaction: $120 per AF.

The location adjustment would be -$40 per AF calculated as $80 per AF minus $120 per AF.

*Calculation of Net Contract Value/AF.* The Net Contract Value per AF for an Eligible Transaction is defined as follows:

\[
\text{Net Contract Value per AF} = \text{Contract Value per AF} - \text{Location Adjustment per AF}
\]
For either hypothetical Eligible Transaction, the Net Contract Value = $284.74 per AF, where the Contract Value per AF = $244.74 per AF and Location Adjustment = -$40 per AF.

B. **Step 2: Calculate the Transaction Characteristics for each Eligible Transaction**

The IID and the Authority agree that the Net Contract Value per AF from a sample of Eligible Transactions must be adjusted to take into account differences between the Agreement and Eligible Transactions. Transaction characteristics are traits of water sources and contract terms that have a material impact on the market value of the water transferred under an Eligible Transaction. The Parties agree that, at a minimum, a Price Redetermination should take into account the following characteristics: supply reliability, TDS water quality and Vintage. If there is sufficient information available from the set of Eligible Transactions, adjustments for other Transactions characteristics can be requested by a Party and undertaken. Such other characteristics may include, but are not limited to, measures of water quality other than TDS, quantity, term, or the type of parties involved in an Eligible Transaction. See Step 3 in this section for a discussion of the protocol to assess whether any other characteristics should be included in a Price Redetermination.

**Supply Reliability:** For the purpose of a Price Redetermination, "Supply Reliability" is defined as follows: the expected yield per AF of contractual commitment based on (i) the priority of the underlying water right of the transaction, (ii) hydrologic conditions in any relevant river system or groundwater basin, and (iii) any non-hydrologic factors that affect the availability of water under the Eligible Transaction, including terms of the contract.

**TDS Water Quality:** As of the Reference Date of the Eligible Transaction, the five-year running average of the TDS of water available to the transferee.

**Vintage:** The difference in years between the year of the Price Redetermination and the year of the Reference Date of the Eligible Transaction. The Vintage is seven years for the hypothetical Eligible Transaction analyzed in Table E.1.
C. *Step 3: Identify statistically valid relation between Net Contract Value Per AF of an Eligible Transaction and the Transaction Characteristics*

With the completion of Step 1 and Step 2, data has been collected and calculated for the Net Contract Value per AF and the Transaction characteristics for each Eligible Transaction. See Table E.2 for hypothetical sample data for Eligible Transactions. (The purpose of the example is to illustrate the steps of the Price Redetermination calculation. The example does not represent the expectations of either Party about the likely outcome of an actual Price Redetermination.)

To discover how the market value of water (as measured by the Net Contract Value per AF) varies with Transaction characteristics, a Price Redetermination would involve the following statistical study:

First, specify the basic regression model to estimate the relation between Net Contract Value per AF and the three basic Transaction characteristics: supply reliability, TDS water quality, and Vintage. The form of the equation to be estimated is the following:

\[
\ln(\text{NCV}_i) = \alpha_0 + \alpha_1 \times \ln(\text{SR}_i) + \alpha_2 \times \ln(\text{TDS}_i) + \alpha_3 \times \text{Vintage}_i + \epsilon_i
\]

where,

\[
\begin{align*}
\ln(\text{NCV}_i) & = \text{natural logarithm of Net Contract Value per AF for Transaction } "i" \\
\ln(\text{SR}_i) & = \text{natural logarithm of calculated supply reliability for Transaction } "i" \\
\ln(\text{TDS}_i) & = \text{natural logarithm of TDS water quality for Transaction } "i" \\
\text{Vintage}_i & = \text{Vintage of Transaction } "i" \\
\epsilon_i & = \text{difference between the actual value and the model's predicted value of the natural logarithm of Net Contract Value per AF for transaction } "i" \text{ ("residual")}
\end{align*}
\]

The values for the parameters \((\alpha_0, \alpha_1, \alpha_2, \alpha_3)\) and the standard deviation of the residual ("\(\sigma\)") are estimated by the regression method commonly known as "linear regression" or
"ordinary least squares." Linear regression analysis is one of the most widely used methods of statistical techniques in the sciences and social sciences.6

Second, estimate the basic regression model with the data from the Eligible Transactions. The estimates for the sample data in Table E.2 are:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Coefficient</th>
<th>Standard Deviation</th>
<th>T-statistic</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>9.52</td>
<td>1.66</td>
<td>5.73</td>
<td>4.9E-06</td>
</tr>
<tr>
<td>Supply Reliability</td>
<td>0.76</td>
<td>0.19</td>
<td>4.08</td>
<td>3.8E-04</td>
</tr>
<tr>
<td>TDS Water Quality</td>
<td>-0.55</td>
<td>0.27</td>
<td>-2.04</td>
<td>5.2E-02</td>
</tr>
<tr>
<td>Vintage</td>
<td>-0.06</td>
<td>0.02</td>
<td>-3.81</td>
<td>7.6E-04</td>
</tr>
</tbody>
</table>

R² = .62, σ = .19

- R²: measures the proportion of the variation in the Net Contract Value per AF of the sample Eligible Transactions that can be explained by the Transaction characteristics supply reliability, TDS water quality, and Vintage. In this example, 62% of the variation is explained by the variation in the Transaction characteristics and 38% of the variation is unexplained by the variation in the Transaction characteristics

- σ = estimated standard error of the residual

- Coefficient: the estimated value for the respective parameter

- Standard Deviation: a measure of the variability in the estimated value of a parameter

For discussion of the linear regression method, see the following references:

Scheffé, Henry The Analysis of Variance (Wiley 1959, Chapter 10)
Draper and Smith Applied Regression Analysis (Wiley 1966, Chapter 6)
Rao, C Radhakrishna Linear Statistical Inference and Its Applications (Wiley 1973, Chapter 4)
Montgomery and Peck Introduction to Linear Regression Analysis (Wiley, 1982, Chapter 3).
- T-statistic: a test statistic to determine whether the estimated value is significantly different from zero

- P-Value: the probability that a coefficient would equal its estimated value if it were truly zero

In this example, the estimated impact of supply reliability, TDS water quality, and Vintage are all statistically and significantly different from zero. The interpretation of the findings are as follows:

- **Supply Reliability:** A 10% increase in supply reliability increases the expected Net Contract Value per AF by 7.6%. The probability that this impact would be estimated if supply reliability had no impact on Net Contract Value per AF is less than 0.04%.

- **TDS Water Quality:** A 10% increase in the TDS of water decreases the expected Net Contract Value per AF by 5.5%. The probability that this impact would be estimated if TDS water quality had no impact on Net Contract Value per AF is 5.2%.

- **Vintage:** Each additional year of contract Vintage reduces Net Contract Value per AF by 6%. The probability that this impact would be estimated if Net Contract Value per AF were the same for all vintages is about 0.08%.

Under the sample Eligible Transaction data, there is strong evidence that the Net Contract Value per AF of an Eligible Transaction increases with supply reliability, improved TDS water quality, and the closer the Reference Date is to the date of the Price Redetermination.

Third, consider an alternative regression model that expands the list of Transaction characteristics to include any other characteristic suggested by either Party, provided that the Party suggesting a characteristic supplies the necessary data to measure the Transaction characteristic. The Price Redetermination will include the additional Transaction characteristic if both of the following conditions are satisfied:

1. The number of Eligible Transactions exceed the total number of included Transaction characteristics in any statistical model by at least seven; and

2. The additional Transaction characteristic (a) has the direction of impact stated by the Party at the time it suggested inclusion of the characteristic, and (b) the characteristic's estimated coefficient is statistically different from zero at a level of statistical significance of at least 10% according to a one-tailed test.
The Party not suggesting the characteristic has the right to challenge the validity of the data submitted, provided that it supply alternative data to measure the proposed Transaction characteristic.

Suppose that each Party suggests a different additional Transaction characteristic, each satisfies the two conditions for inclusion, but that the number of Eligible Transactions limits the inclusion to only one of the suggested additional characteristics. An Agreement Valuation Band is calculated in the alternative, first including one of the suggested additional Transaction characteristics and then the other. The one that produces the narrowest Agreement Valuation Band is accepted for inclusion.

Fourth, select the final regression model. The Transactions characteristics include supply reliability, TDS water quality, Vintage, and any other Transaction characteristics that satisfy the required inclusion conditions. The validity of the final regression model should be verified. This final regression model is deemed the statistically valid relation between Net Contract Value per AF of an Eligible Transaction and the Transaction characteristics.

D. Step 4: Calculate Agreement Valuation Band based on the statistically valid relation between Net Contract Value per AF of an Eligible Transaction and Transaction Characteristics

The final regression model provides the basis for answering the two basic questions of a Price Redetermination:

1. How does one estimate the market value of IID Conserved Water from the valuations of Eligible Transactions; and

2. How does one decide whether the estimate of the market value of IID Conserved Water based on the valuations of Eligible Transactions is

---

7 The Agreement Valuation Band is discussed in D below.

8 For general discussion of issues and proposed solutions, see Scheffé (1959), Chapter 10 ("The Effects of Departures from the Underlying Assumptions"), Draper and Smith (1966), Chapter 6 ("Selecting the Best Regression Equation"), and Rao (1973), Chapter 4g ("The Theory and Applications of Statistic Regression").
sufficiently reliable to warrant an adjustment to the price in effect under the Agreement?

The first question is answered by calculating the expected predicted Net Contract Value per AF of the Agreement. The second question is answered by calculating a "prediction value interval."

Each calculation is described below.

The calculation of the expected predicted Net Contract Value per AF for IID Conserved Water uses the estimated parameters from the final regression model and the value of the Transaction characteristics for the Agreement, evaluated as of the date of the Price Redetermination.\(^9\) The Agreement's Transaction characteristics are measured by the same methods used to measure the Transaction characteristics of Eligible Transactions. For example, if the IID's Supply Reliability were .99 and the TDS water quality were 600, then the expected predicted Net Contract Value per AF of the IID's water is $407 per AF,\(^10\) or $121 per AF above the $286 per AF average Net Control Value per AF of the sample of Eligible Transactions. In this example, the majority of this difference reflects the adjustment for the Vintage of Eligible Transactions (see below):\(^11\)

---

\(^9\) In terms of the parameters of the basic regression model, the formula for the expected predicted value for IID Conserved Water is:

\[
EP(NCV_{\text{IID}}) = e^{[\alpha_0 + \alpha_1 \cdot \ln(SR_{\text{IID}}) + \alpha_2 \cdot \ln(TDS_{\text{IID}})]}
\]

where \(EP(NCV_{\text{IID}})\) = expected predicted Net Contract Value per AF for IID Conserved Water, \(SR_{\text{IID}}\) = the value of the reliability index for IID Conserved Water, and \(TDS_{\text{IID}}\) = the TDS of the water the Authority receives under the Agreement. Since the prediction is as of the date of the Price Redetermination, Vintage is set to zero. Using the estimated values for the parameters estimated with the sample of data for hypothetical transactions, the formula becomes:

\[
EP(NCV_{\text{IID}}) = e^{[0.52 + 0.76 \cdot \ln(SR_{\text{IID}}) - 0.55 \cdot \ln(TDS_{\text{IID}})]}
\]

\(^{10}\) Setting \(SR_{\text{IID}} = .99\) and \(TDS_{\text{IID}} = 600\) in the formula in the previous footnote, yields

\[
EP(NCV_{\text{IID}}) = e^{[0.52 + 0.76 \cdot \ln(0.99) - 0.55 \cdot \ln(600)]} = $407 \text{ per AF}
\]

\(^{11}\) Recall that Net Contract Value per AF was estimated to increase by 6% annually. Since the average Vintage of Eligible Transactions was five years, Net Contract Value per AF, at the date of the Price Redetermination, would be 33.8% higher for the same supply reliability and TDS water quality. That is, Net Contract Value per AF for the Eligible Transaction, as of the market conditions prevailing at the time of the Price Redetermination, would be \$383 per AF. The remaining \$24 per AF difference between the expected predicted Net Contract Value per AF for the IID Conserved Water reflects
<table>
<thead>
<tr>
<th>Adjustment</th>
<th>$ per AF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vintage</td>
<td>97</td>
</tr>
<tr>
<td>Reliability/Water Quality</td>
<td>24</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>121</strong></td>
</tr>
</tbody>
</table>

The IID and the Authority understand that no analysis of Eligible Transactions can predict the Net Contract Value per AF for IID Conserved Water with absolute certainty. There are two sources of prediction error. First, the Net Contract Value per AF of an Eligible Transaction is not fully explained by the Transaction characteristics. The greater the number of Eligible Transactions, the smaller the potential magnitude of this prediction error. Second, reflecting the fact that Eligible Transactions are not strictly comparable to the Agreement, the IID’s Transaction characteristics may differ from the Transaction characteristics of the sample of Eligible Transactions. The smaller the difference between the IID’s Transaction characteristics and the Transaction characteristics of Eligible Transactions, the smaller the potential magnitude of this prediction error.

Figure E.1 shows the frequency distribution of the predictions for the IID’s Net Contract Value per AF, as of the Price Redetermination date, for the hypothetical data. The frequency distribution of predictions becomes more closely bunched around the expected predicted value, (a) the greater the proportion of the variation in the Net Contract Value per AF of Eligible Transactions is explained by the Transaction characteristics, and (b) the closer the IID’s Transaction characteristics are to the Transaction characteristics of the Eligible Transactions.

The IID and the Authority agree to use a "prediction interval" to decide whether the Agreement price, as of the time of a Price Redetermination, is consistent with the estimated

The offsetting adjustments for the IID’s higher supply reliability (.99 for the IID versus an average of .757 for the Eligible Transactions) and the higher TDS of water quality available to the Authority (600 versus an average of 501 for the Eligible Transactions).

In the hypothetical example, recall that about 38% of the differences in Net Contract Value per AF among Eligible Transactions were unrelated to the Transaction characteristics.

The frequency distribution measures the probability that the true IID Net Contract Value per AF lies within a specified interval. For example, the probability that the true IID Net Contract Value per AF lies +/- $10 per AF of $407 per AF is about 9%.
Net Contract Value per AF of the IID Conserved Water. A prediction interval is based on the final regression model and the IID's values for the Transaction characteristics. The Parties have agreed that an 80% prediction interval be utilized. That is, 80% of the frequency distribution should fall outside the prediction interval and 20% should fall inside. Figure E.1 shows an "Agreement Valuation Band" defined by the 80% prediction interval. This Band includes 20% of the frequency distribution of the predicted IID Net Contract Value per AF. If the value of the agreement price falls within this Band, the existing price is deemed to be consistent with the market valuation of IID Conserved Water. If the value of the existing price falls outside this Band, the price is deemed inconsistent with the market valuation, and the Price Redetermination would adjust the price. For the hypothetical example, the lower and the upper limits of the Agreement Valuation Band, respectively, are $384 per AF and $430 per AF (see Figure E.1). That is, if the value of the price falls within +/- $23 per AF of the expected predicted IID Net

14 The formula for the prediction interval can be found in numerous statistics books. The formula for a $100(1-\alpha)$ percent prediction interval is:

$$UL = E\{lnNCV_{\text{IID}}\} + t_{\alpha/2,n-p} \cdot K \geq E\{lnNCV_{\text{IID}}\} \geq E\{lnNCV_{\text{IID}}\} - t_{\alpha/2,n-p} \cdot K = LL$$

where, $E\{lnNCV_{\text{IID}}\} =$ expected predicted value of the natural logarithm of IID's Contract Net Value per AF

$t_{\alpha/2,n-p}$ is the value of the Student's T-statistic for significance level $\alpha$ (two-tailed test) with "n-p" degrees of freedom

$\alpha =$ significance level (defined as the proportion of the frequency distribution outside the prediction interval)

$n =$ number of Eligible Transactions

$p =$ number of Transaction characteristics +1

$K = \sqrt{\sigma^2[1 + x_0'(XX)'x_0]}$

$x_0 =$ the values for IID's Transactions characteristics (including the constant term)

$X =$ the data matrix of Transaction characteristics used to calculate the regression (including the constant term)

The lower limit of the Agreement Valuation Band = $e^{UL}$. The upper limit of the Agreement Valuation Band = $e^{UL}$.

15 The Agreement Valuation Band is calculated by substituting $\alpha = .8$ into the formula in the previous footnote, the value of the IID's Transaction characteristics, and the data matrix for the Eligible Transactions.
Contract Value per AF, the Price Redetermination would conclude that the existing price is consistent with the market valuation of IID Conserved Water.

E. **Step 5: Entertain Inclusion of Transactions with Vintages Greater Than Ten Years**

The IID and the Authority understand that the width of the Agreement Valuation Band reflects the reliability of information available from the study of the Eligible Transactions. Reflecting their common goal of basing a Price Redetermination on the most reliable information about the market value of IID water, the Parties agree that the Price Redetermination should use as much available information as possible to narrow the range of the Agreement Valuation Band. To this end, the Parties agree to expand the set of Eligible Transactions to include longer Vintages up to 15 years as of the date of the Price Redetermination, provided that:

1. The Transactions with longer Vintages satisfy all other Eligibility Criteria; and
2. No Transactions with a contract effective date before the year 2000 are included.

Using the data from the expanded set of Eligible Transactions, reestimate the final regression model and recalculate the Agreement Valuation Band. The Price Redetermination shall be based on this recalculated Agreement Valuation Band, provided that both of the following conditions are satisfied:

1. The expected predicted IID Net Contract Value per AF from the initial set of Eligible Transactions cannot differ by more than 5% from the expected predicted IID Net Contract Value per AF from the expanded set of Eligible Transactions; and
2. The width of the recalculated Agreement Valuation Band must be smaller than the width of the initial Agreement Valuation Band.

If one or both of the above conditions are not satisfied, then the Price Redetermination shall be based on the Agreement Valuation Band calculated with only the initial set of Eligible Transactions.
F. **Step 6: Determine Whether Adjustment To Price Warranted**

This determination starts with the calculation of the Net Contract Value per AF for the price in effect under the Agreement as of the date of the Price Redetermination for the remaining term of the Agreement. The same procedures and methods used to calculate the Net Contract Value per AF of the Eligible Transactions is used. The location adjustment shall be zero. Unless the conditions of renewal are satisfied as of the date of the Price Redetermination, the projections shall assume that transfer of IID Conserved Water cease at the end of the Initial Term.

The final step involves the calculation of a Price Redetermination Value. If the Net Contract Value per AF for the existing price in effect under the Agreement falls outside the Agreement Valuation Band, the Price Redetermination Value is set to:

1. The lower limit of the Band if the Net Contract Value per AF falls below the Band; or
2. The upper limit of the Band if the Net Contract Value per AF exceeds the Band.

If the Net Contract Value per AF falls within the Agreement Valuation Band, no adjustment in the price is made.

The calculation of the Price Redetermination Value is illustrated by the use of the Agreement Valuation Band estimated with the hypothetical data. The Band's lower and upper limits, respectively, are $384 per AF and $430 per AF, or about +/- $23 per AF of the estimated predicted value of $407 per AF. The Price Redetermination Value would be:

- $384 per AF: if the existing price produced a Net Contract Value per AF less than $384 per AF; or $430 per AF if the existing price produced a Net Contract Value per AF greater than $430 per AF.

5. **Adjustment to Agreement Price**

If the Price Redetermination concludes that an adjustment is warranted to the existing price, the new price under the Agreement shall be calculated as follows:
New Price Schedule = \( \omega \times \) Price Redetermination Value \\
+ (1-\( \omega \)) \times \) Agreement Price before Price Redetermination

where \( \omega \) = the Weight of the Price Redetermination Value as set forth in the table below. Since the Price Redetermination Value is based on a contract valuation price subject to inflation escalation, the Price Redetermination Value would be subject to annual escalation based on the annual growth in the CPI.

CALIFORNIA WATER MARKET SCALE

<table>
<thead>
<tr>
<th>Projected Average Annual Transfers from Qualifying Transactions(^\text{16})</th>
<th>Weight of Price Redetermination Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.24-0.35 MAF</td>
<td>50%</td>
</tr>
<tr>
<td>0.36-0.47 MAF</td>
<td>53%</td>
</tr>
<tr>
<td>0.48-0.59 MAF</td>
<td>60%</td>
</tr>
<tr>
<td>0.60-0.71 MAF</td>
<td>67%</td>
</tr>
<tr>
<td>0.72-0.83 MAF</td>
<td>73%</td>
</tr>
<tr>
<td>0.84-0.95 MAF</td>
<td>80%</td>
</tr>
<tr>
<td>0.96-1.07 MAF</td>
<td>87%</td>
</tr>
<tr>
<td>1.08-1.20 MAF</td>
<td>93%</td>
</tr>
<tr>
<td>&gt; 1.20 MAF</td>
<td>100%</td>
</tr>
</tbody>
</table>

For example, suppose that the hypothetical Price Redetermination described above was the first one during the Initial Term of the Agreement. Suppose that the Price Redetermination

\(^{16}\) For definition, see § 5.1(e). The calculation of average annual transfers shall be rounded to the nearest .01 of 1 million AF.
Value was determined to be $384 per AF and the projected average annual deliveries of Qualifying Transactions for the next 10 years after the Price Redetermination, rounded to the nearest one-hundredth of one million AF, was 0.70 million AF. The weight \( \omega \) for the Price Redetermination Value is 67%. The New Base Contract Price formula is:

\[
\text{New Base Contract Price} = \$257.28 \text{ per AF (subject to CPI escalation)} + 33\% \times [(\text{Full MWD Water Rate} - \text{Base Wheeling Rate}) + 50\% \times (\text{Base Wheeling Rate} - \text{Actual Wheeling Rate})]
\]

In years when the Authority pays a Shortage Premium, the Premium paid equals \((1-\omega)\), or 33% of the amount specified in the definition of the Shortage Premium.

6. Conclusion

The IID and the Authority understand that a Price Redetermination involves an extensive analysis of transactions. The procedures and calculations described above are required to provide both Parties with the comfort that a Price Redetermination will meet their common goals.

\[\text{17} \quad \$257.28 \text{ per AF} = 67\% \times \$384 \text{ per AF (rounded to the nearest penny)}\]
## Table 2.1: Calculation of Present Value of Contract Payments for Hypothetical Eligible Transaction

<table>
<thead>
<tr>
<th>Agreement Year</th>
<th>Quantity</th>
<th>Upfront Payment</th>
<th>Delivery Price</th>
<th>Delivery Payments</th>
<th>Assumed Costs (6)</th>
<th>Total Payments (7)</th>
<th>Contract Value/AF</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>0</td>
<td>$14,000,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>0</td>
<td>$0</td>
<td>$0</td>
<td></td>
<td></td>
<td>$0</td>
<td>$0</td>
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<td>3</td>
<td>10,000</td>
<td>$87.50</td>
<td>$875,000</td>
<td>$500,000</td>
<td>$1,375,000</td>
<td>$2,635,581</td>
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</tr>
<tr>
<td>4</td>
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<td>$896,875</td>
<td>$512,500</td>
<td>$1,409,375</td>
<td>$2,701,471</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>10,000</td>
<td>$91.93</td>
<td>$919,297</td>
<td>$525,313</td>
<td>$1,444,609</td>
<td>$2,760,007</td>
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</tr>
<tr>
<td>6</td>
<td>0</td>
<td>$94.23</td>
<td>$0</td>
<td></td>
<td></td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>7</td>
<td>10,000</td>
<td>$96.58</td>
<td>$965,836</td>
<td>$551,906</td>
<td>$1,517,743</td>
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<tr>
<td>8</td>
<td>8,000</td>
<td>$99.00</td>
<td>$791,986</td>
<td>$452,563</td>
<td>$1,244,549</td>
<td>$2,385,534</td>
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<tr>
<td>9</td>
<td>8,000</td>
<td>$101.47</td>
<td>$811,785</td>
<td>$463,877</td>
<td>$1,275,663</td>
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<tr>
<td>10</td>
<td>8,000</td>
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<td>$832,080</td>
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<td>11</td>
<td>8,000</td>
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<td>$852,882</td>
<td>$487,361</td>
<td>$1,340,243</td>
<td>$2,568,960</td>
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<tr>
<td>12</td>
<td>8,000</td>
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<td>$499,545</td>
<td>$1,373,749</td>
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<td>13</td>
<td>8,000</td>
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<td>$896,059</td>
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<td>$114.81</td>
<td>$918,461</td>
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<td>$1,443,295</td>
<td>$2,766,489</td>
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<td>8,000</td>
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<td>16</td>
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<tr>
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<td>8,000</td>
<td>$123.64</td>
<td>$989,082</td>
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<td>$1,554,271</td>
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<tr>
<td>18</td>
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<td>$126.73</td>
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<td>$1,593,128</td>
<td>$3,053,686</td>
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<tr>
<td>19</td>
<td>8,000</td>
<td>$129.89</td>
<td>$1,039,154</td>
<td>$593,802</td>
<td>$1,632,956</td>
<td>$3,130,028</td>
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</tr>
<tr>
<td>20</td>
<td>8,000</td>
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<td>$1,065,133</td>
<td>$608,647</td>
<td>$1,673,780</td>
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<tr>
<td>21</td>
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<td>$1,091,761</td>
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<td>22</td>
<td>8,000</td>
<td>$139.88</td>
<td>$1,119,055</td>
<td>$639,460</td>
<td>$1,758,515</td>
<td>$3,370,698</td>
<td></td>
</tr>
</tbody>
</table>

### Contract Terms
- Price/AF: $175
- Quantity: 10,000
- Delivery (Years): 20
- Frequency: 80%
- Inflation: 2.5%
- Assumed Costs: $50
- Interest: 5.5%
- Inflation-Adjusted: 2.9%

### Present Value
- Payments: $27,744,773
- Deliveries (AF): 113,364
- Contract Value/AF: $244.74

### Present Value Col (8)
- $27,744,773

### Notes:
1. Year of Price Redetermination: Agreement Year 7 of Eligible Transaction, which is Year 5 of deliveries
2. Vintage of Eligible Transaction = 7 years
3. Up Front Payment = 50%*$175/AF*80%*20 years*10,000 AF/year
4. Delivery Price = ($175/AF + $87.50/AF credit), subject to CPI escalation
5. Delivery Payment = Quantity*Delivered Price
6. Total Payments = Delivery Payment + Up Front Payment
Table E.2
Data for Hypothetical Eligible Transactions Used in a Price Redetermination

<table>
<thead>
<tr>
<th>Transaction</th>
<th>Value</th>
<th>Reliability</th>
<th>Quality</th>
<th>Vintage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>$263</td>
<td>0.5656</td>
<td>553</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>$223</td>
<td>0.5083</td>
<td>403</td>
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</tr>
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<td>3</td>
<td>$327</td>
<td>0.9700</td>
<td>453</td>
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</tr>
<tr>
<td>4</td>
<td>$330</td>
<td>0.8560</td>
<td>488</td>
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</tr>
<tr>
<td>5</td>
<td>$419</td>
<td>0.8406</td>
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</tr>
<tr>
<td>6</td>
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<td>0.6902</td>
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<td>0.5645</td>
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<td>0.7575</td>
<td>489</td>
<td>7</td>
</tr>
<tr>
<td>24</td>
<td>$211</td>
<td>0.6752</td>
<td>474</td>
<td>8</td>
</tr>
<tr>
<td>25</td>
<td>$496</td>
<td>0.9700</td>
<td>423</td>
<td>5</td>
</tr>
<tr>
<td>26</td>
<td>$163</td>
<td>0.6938</td>
<td>495</td>
<td>8</td>
</tr>
<tr>
<td>27</td>
<td>$380</td>
<td>0.9700</td>
<td>419</td>
<td>2</td>
</tr>
<tr>
<td>28</td>
<td>$299</td>
<td>0.5518</td>
<td>555</td>
<td>6</td>
</tr>
<tr>
<td>29</td>
<td>$335</td>
<td>0.7484</td>
<td>456</td>
<td>6</td>
</tr>
<tr>
<td>30</td>
<td>$172</td>
<td>0.5162</td>
<td>619</td>
<td>5</td>
</tr>
</tbody>
</table>

|            | Average | 0.7574 | 501 | 5       |
|            | Standard Deviation | $82 | 0.1421 | 69 | 2.4 |
|            | Maximum             | $496 | 0.9700 | 652 | 10 |
|            | Minimum             | $163 | 0.5083 | 403 | 1   |
Exhibit F: Transfers of Additional Available Water

A. **Summary**

This exhibit describes the procedures applicable to transfers of Additional Available Water set forth in § 3.2 of the Agreement. Independent of the quantity of water transferred under § 3.1, in its complete discretion, IID can elect to make additional quantities of Conserved Water available to the Authority ("Additional Available Water"). In accordance with the provisions of § 3.2 and certain identified carve-outs for transfers to MWD or CVWD, if IID wishes to transfer Additional Available Water it must first offer the water to the Authority. Similarly, if the Authority wants to acquire additional water from a third party other than the MWD, unless covered by an appropriate Drought or Water Quality Transaction, it must first offer to purchase Conserved Water from the IID.

The quantity of the Additional Available Water will be an amount in excess of the Stabilized Primary Quantity identified in § 3.1 and up to a maximum of 100,000 AFY. Additional Available Water does not include the quantity of Conserved Water transferred under the IID/MWD 1988 Agreement as of the Execution Date or any increases which result from the PCC determinations and does not include any water conserved from the All-American Canal or the Coachella Canal.

The price of the Additional Available Water is the same as other Conserved Water transferred concurrently under § 3.1 of the Agreement. The term for the transfer of any Additional Available Water must also end concurrently with the Initial Term and the Renewal Term.

---

1 Terms in bold are defined in § 1.1 of the Agreement.
B. Procedures

For a hypothetical application of the procedures in § 3.2 assume the following:

1. In Agreement Year 9 the Authority determines to acquire an additional 30,000 AFY of water to satisfy its projected water supply demands. The Authority provides the IID with a Notice to Acquire and the Notice to Acquire contains the following additional terms: A transfer start date in Agreement Year 12 and a ramp-up schedule with deliveries increasing evenly over a two-year period. In addition, the Authority included transportation and Landowner participation contingencies which were to be satisfied within 12 months.

2. The Notice to Acquire did not include any contingency for environmental mitigation. IID provides the Authority with its own Notice to Transfer, which accepts the Authority's proposed terms and adds an environmental contingency.

Comment:

Under these circumstances, the IID could have chosen to accept the terms contained in the Notice to Acquire, provide its own Notice of Transfer which included additional terms such as an acceptable environmental contingency, or elect to meet and confer with the Authority to see if mutually acceptable terms and conditions could be negotiated. Thus, its response to the above Notice to Acquire was appropriate.

Another potential application of the notice requirements is contained in the following hypothetical.

1) In Agreement Year 8, the IID provides a Notice to Transfer to the Authority that it desires to transfer 80,000 AFY of Additional Available Water to
the Authority beginning in Agreement Year 13 and under a ramp-up schedule of five years.

2) The Notice to Transfer includes a transportation, Landowner subscription and environmental contingency that must be satisfied within 24 months.

3) The Authority fails to accept the terms and conditions proposed by the IID and instead elects to provide IID with a Notice to Acquire 60,000 AFY with deliveries beginning in Agreement Year 13 and under a ramp-up schedule of six years.

Comment:

In this hypothetical situation, the Authority's response to the Notice to Transfer was not to accept the proposed terms and conditions, and to provide IID an independent Notice to Acquire. If IID elects not to accept the proposed Notice to Acquire, the Parties have an obligation to meet and confer to see whether an agreement on appropriate terms can be reached.

If no agreement on terms and conditions concerning the Additional Available Water is achieved, either the IID or the Authority can elect to provide a Notice of Waiver which would relieve both Parties of their respective rights and obligations concerning Additional Available Water and they would be free to enter Transactions involving third parties. On the other hand, if neither Party sends a Notice of Waiver, the Parties' respective rights to Additional Available Water remain intact.

C. Carve-Outs and Exclusions

Both the IID and the Authority have the right to "exclude" from Additional Available Water transfers and purchases which comply with certain specified restrictions.
1. IID Carve-Out for Adjunct Contracts

By way of example, assume the following:

a. In Agreement Year 4, the IID provides the Authority with a Notice to Transfer for 70,000 AFY beginning in Agreement Year 11 and under a ramp-up schedule lasting five years and subject to various environmental, Landowner subscription and transportation contingencies.

b. The Authority accepts the proposed terms and conditions within six months from receipt of the Notice to Transfer.

c. In Agreement Year 5, the IID executes an Adjunct Contract with the MWD which provides for the transfer of 25,000 AFY to MWD at a price $15 per AF higher than the per AF price paid by the Authority.

Comment

The IID's Notice to Transfer to the Authority, which was accepted by the Authority, precludes the IID from subsequently reducing the quantity of Additional Available Water to be transferred to the Authority. However, in the above hypothetical the IID agreed to transfer to MWD only 25,000 AFY. Thus, the quantity to be provided to MWD under the Adjunct Contract will not result in a reduction of the amount of Additional Available Water previously committed to the Authority. However, as a result of the 25,000 AFY Adjunct Contract with MWD, only 5,000 AFY of potential Additional Available Water remains.

2. Authority Exclusion

As noted above, the Authority's obligation to first offer to purchase Additional Available Water from the IID does not apply to water purchases from MWD. In addition, the Authority has
the right to *exclude* the acquisition of water from a third party other than MWD under certain conditions. For example, assume the following:

a. In Agreement Year 1, a **Critical Year** is projected by the California Department of Water Resources.

b. The Authority seeks to execute a contract with the City of STU to deliver 40,000 AFY of 340 TDS water for continuous deliveries beginning in Agreement Year 1 for the following 10 years, irrespective of whether the Critical Year condition continues.

*Comment*

Under these facts, the proposed contract would not qualify for an exclusion as a Water Quality Transaction or a Drought Transaction. It exceeds both the quantity limitation for a Water Quality Transaction set forth in the Agreement (20,000 AFY) and the requirement that deliveries be completed within two years from the date of execution.

3. **Authority Water Quality Exclusion**

The Authority is also allowed to acquire water from a third party to obtain a water quality benefit. A Water Quality Transaction that results in the Authority receiving water with a TDS of 400 ppm, as measured at Lake Skinner and which satisfies certain conditions, may be undertaken by the Authority without regard to its obligation to purchase Additional Water from the IID.

For example, assume the following:

a. In Agreement Year 5, the Authority is receiving 100,000 AF of Conserved Water from the IID.

b. The Authority proposes to execute a contract with the KLM Agency for the delivery of 50,000 AFY. The water has a TDS of 100 ppm.
c. Transportation of the water from the KLM Agency will require conveyance through the State Water Project and MWD transportation facilities.

d. In transporting the water to Lake Skinner, the water purchased from KLM Agency will be blended with a greater volume of State Water Project water with a TDS of 410. As a direct result of the commingling of supplies, the water received at Lake Skinner by the Authority has a TDS of 375.

e. The TDS of Conserved Water delivered to the Authority during Agreement Year 5 is 500.

f. The Authority has not undertaken any previous Water Quality Transactions.

Comment

Under these assumed facts, the proposed Water Quality Transaction qualifies for an exclusion. The Authority will take delivery of the water with a TDS of less than 400 from KLM Agency at Lake Skinner. The TDS of the proposed Transaction is also less than the TDS of the Conserved Water then being transferred by the IID to the Authority. Finally, as the total annual volume of the proposed Transaction is less than 100,000 AFY and the Authority is engaged in no other Water Quality Transactions, the Authority has satisfied the applicable schedule.
Exhibit G: Term Right of First Refusal

The IID and the Authority each have with respect to the other a right of first refusal under certain circumstances for certain Transactions entered into after the commencement of Agreement Year 63 and terminating on the last day of the 10th year following expiration of the Renewal Term (the Shadow Period). An example of how the term right of first refusal is implemented follows.

Assume the following:

- The IID is transferring 200,000 AFY to the Authority in Agreement Year 63.
- The IID is transferring 100,000 AFY to third parties other than the Authority in Agreement Year 63.
- The Authority is acquiring 550,000 AFY from MWD, projects and third parties other than the IID.
- The Authority executes a new contract with PQR water district in Agreement Year 70 for 75,000 AFY to commence in the first year following expiration of the Renewal Term and to last for 40 years at a price of $600 per AF at the Colorado River, adjusted each year by the CPI.
- The Authority and the IID met and conferred in Agreement Year 63 and exchanged the following Last Best Offers without reaching agreement. The Authority offered to acquire 100,000 AFY of IID Conserved Water at $650 per AF delivered to the Authority without escalation for 30 years, and the IID offered to transfer 200,000 AFY of Conserved Water to the Authority at Imperial Dam for 10 years at $650 per AF with annual escalations for changes in the CPI.

Upon executing the agreement with PQR water district, the Authority must give written Notice of such agreement to the IID with inclusion of the contract, information about Eligibility

---

1 Terms in bold are defined in § 1.1 of the Agreement.
Criteria, and a per AF valuation of the contract as performed in a Price Redetermination. The Parties then determine whether such agreement is a Competing Proposed Transaction. Only Competing Proposed Transactions are subject to the term right of first refusal. The PQR agreement with the Authority meets the required relevant Eligibility Criteria for being a Competing Proposed Transaction.

The IID's right of first refusal under the example extends only to Competing Proposed Transactions of the Authority that causes the Authority to acquire from MWD, projects or third parties other than IID more than 550,000 AFY by up to 200,000 AFY. Assuming the PQR Competing Proposed Transaction for 75,000 AFY was in addition to the 550,000 AFY being acquired by the Authority in Agreement Year 63, then the IID may exercise its right of first refusal within 90 days of the Notice. If the IID exercises the right of first refusal, then it must perform under all the terms of the PQR contract. If the IID fails to exercise its right of first refusal, then the Authority may consummate the agreement with PQR water district. The IID's right of first refusal continues to exist against the Authority during the Shadow Period post-rejection, but has been reduced by 75,000 AFY and may be reduced further by subsequent Authority Competing Proposed Transactions.

If the right of first refusal is exercised by the IID, then the Parties must also determine whether a premium or discount in the price under the new agreement is warranted. Under the example, the Authority is the Offering Party and the IID is the Responding Party. If the terms of the Competing Proposed Transaction are inferior to the Authority compared to the IID's Last Best Offer, as determined by utilizing the process for determining the per AF value of Eligible Transactions in a Price Redetermination, then the IID is entitled to receive a 10% premium above the price requested under the PQR contract. Assuming in the example no value impact has been demonstrated in the Price Redetermination history for volume differences between 75,000 AFY and 200,000 AFY, and assuming no quality differences between IID Conserved Water and PQR water, then no premium is required because the per AF value of the terms for the PQR water is superior to the Authority compared to the IID's Last Best Offer. However, if the IID's Last
Best Offer had been for $575 per AF and if no value impact had been demonstrated in a Price Redetermination relating to term differences of 10 versus 40 years, then the IID would receive a 10% premium over the PQR price for all water delivered under the new contract.

If the IID later executed a contract with Z Municipality to transfer 50,000 AFY at the Colorado River for five years at $600 per AF, adjusted annually for changes in CPI, then the same process described above would be utilized. However, IID would now be the Offering Party and the Authority would be the Responding Party. If the per AF value of the Authority's Last Best Offer were less to the IID than the per AF value of the Z Municipality contract, the Authority would receive no discount if it exercised its right of first refusal. But, if the Authority's Last Best Offer had a per AF value higher than the per AF value of the Z Municipality contract, and if the Authority exercised its right of first refusal, it would perform under the Z Municipality contract, except that the per AF price would be discounted by 10%.
Exhibit H: Calculations Determining Whether IID Environmental Mitigation Expenditures Exceed Limits

This exhibit illustrates the calculations needed to determine whether IID environmental mitigation expenditures exceed the limits specified in § 8.1(b) of the Agreement.¹ There are two limits:

1. **Limit on initial mitigation obligations**: the present value of expenditures for mitigation obligations identified pre-Effective Date during initial environmental review and as of the Environmental Decision Date may not exceed the IID Environmental Cost Ceiling; and

2. **Limit on subsequent mitigation obligations**: the present value of post-Effective Date expenditures for initial mitigation obligations, plus as of the Subsequent Environmental Mitigation Date, any further mitigation obligations as a result of unanticipated environmental consequences may not exceed $30 million (in Effective-Date Dollars).

IID expenditures include any financing costs the IID incurs in borrowing money to fund IID mitigation programs.

The limits specified in the Agreement are applicable at the commencement or during any year of the Agreement. Therefore, there are three types of needed financial valuations:

1. An initial valuation at the Environmental Decision Date; and

2. An annual valuation commencing with initial mitigation expenditures and continuing each year of the Agreement; and

3. A valuation at a Subsequent Environmental Mitigation Date.

¹ Terms in **bold** are defined in § 1.1 of the Agreement.
If the IID incurs any mitigation obligations as of a Subsequent Environmental Mitigation Date, the annual valuation will be expanded to include both the IID's initial mitigation expenditures and all of the IID's subsequent mitigation expenditures.

Environmental Decision Date Present Value Analysis

The initial determination of whether the present value of required expenditures by the IID for mitigation obligations identified pre-Effective Date does not exceed the IID Environmental Cost Ceiling occurs at the Environmental Decision Date. Since this valuation would occur before any mitigation expenditures are made or any necessary financing arrangements are actually secured, the valuation is based on projections of the time profile of expenditures and anticipated financing arrangements.

The projections of future expenditures should reflect, at the time of the valuation, the most current and best available information on the likely magnitude of mitigation expenditures over the term of the Agreement. Such information may include projections based on analyses of historical conditions deemed representative of the conditions reasonably expected to prevail in the future.

The assumptions about financing arrangements should be consistent with the IID's plans for the financing of mitigation expenditures. The IID shall develop its financing plan with its financial advisor, under then prevailing market conditions, and the exercise of its complete discretion.

The present value of IID's projected mitigation expenditures, as of the Effective Date of the contract, is calculated as:

\[
\text{Present Value} = \text{cumulative IID annual expenditures before the pre-Effective Date (plus accrued interest)} + \text{Present Value of IID's annual expenditures post-Effective Date}
\]

The calculation of accrued interest shall use the cost of IID funds anticipated by IID's financing plan to fund mitigation expenditures. If this calculated present value might be more than the $15 million limit in the exercise of IID's complete discretion, then the condition on environmental mitigation has not been satisfied.
Annual Valuations after Commencement of Initial Mitigation Expenditures

The $30 million limit specified in the Agreement cannot be exceeded during any year of the Agreement. Therefore, a calculation must be made each year to reflect actual cumulative expenditures and the most recent projections of future obligations.

Present Value = cumulative IID expenditures to date as of the year of the valuation + Present Value of IID's projected future annual expenditures

Cumulative IID annual expenditures to date equals the sum of:

- cumulative IID expenditures pre-Effective Date (plus accrued interest) expressed in valuation year dollars
- annual IID expenditures post-Effective Date expressed in valuation year dollars

The formula for expressing expenditures in year "t" in valuation year dollars is:

\[ E_{tv} = E_t \times CPI_v + CPI_t \]

where, \( E_{tv} \) = expenditures in year t expressed in valuation year dollars

\( E_t \) = IID expenditures in year t

\( CPI_v \) = the Consumer Price Index published during the 30 days before the month of the valuation

\( CPI_t \) = the Consumer Price Index published in year t for the month of the valuation

Since the $30 million limit is expressed in Effective-Date Dollars, the $30 million limit must be updated annually. The formula for the limit in year t is as follows:

\[ \text{Limit}_t = \text{Limit}_{t-1} \times (1 + \pi_{t-1}) \]

where \( \text{Limit}_t \) = limit on the present value of the IID's mitigation expenditures in year t,

\( \text{Limit}_{t-1} \) = limit of prior year

\( \pi_{t-1} \) = annual percentage change in CPI in the prior year
Annual Valuations with Subsequent Environmental Mitigation Date for Any Subsequent Environmental Review and Any Subsequent Mitigation Expenditures

If unanticipated environmental consequences result in any new mitigation obligations, the calculation of the present value of the IID's mitigation expenditures will take into account these additional expenditures. At the date of the Subsequent Environmental Mitigation Date, the projection of future new mitigation expenditures will be added to the projection of future initial mitigation expenditures. As of the date of the Subsequent Environmental Mitigation Date, the present value of the IID's mitigation expenditures shall be estimated as follows:

\[
\text{Present Value} = \text{cumulative IID annual expenditures as of the Subsequent Environmental Mitigation Date (plus accrued interest)} + \text{Present Value of IID's projected future annual original and new mitigation expenditures}
\]

The calculation of cumulative IID annual expenditures shall proceed in the same manner. If this present value is less than $30 million, as adjusted by the accrued interest between the Effective Date and the year of the Subsequent Environmental Mitigation Date, then the condition on environmental mitigation continues to be satisfied. For each subsequent year, the assessment of whether the IID environmental mitigation expenditures exceed the $30 million limit (Effective-Date Dollars) shall proceed in the same manner.
Exhibit I: Calculation of Settling-Up Payment

Suppose that the price as of the example year is $250 per AF\(^1\) and that the quantity of Conserved Water to be transferred under the Agreement during the example year is 200,000 AFY. The monthly payments of $4,166,667 ($250 per AF \times 200,000 AF / 12) are due on the 10th Business Day of the month following the month of mailing of the invoice. Suppose further, however, that the actual prices and diversions during the year are as follows:

<table>
<thead>
<tr>
<th>MO.</th>
<th>BEGINNING OF YEAR PRICE</th>
<th>DEEMED MONTHLY TRANSFER(^2)</th>
<th>MONTHLY PAYMENT(^3)</th>
<th>ACTUAL PRICE</th>
<th>ACTUAL DIVERSION</th>
<th>ACTUAL DUE</th>
<th>(OVER) UNDER PAYMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan</td>
<td>$250 per AF</td>
<td>16,667 AF</td>
<td>$4,166,667</td>
<td>$250 per AF</td>
<td>17,000 AF</td>
<td>$4,250,000</td>
<td>$83,333</td>
</tr>
<tr>
<td>Feb</td>
<td>$250 per AF</td>
<td>16,667 AF</td>
<td>$4,166,667</td>
<td>$255 per AF</td>
<td>16,000 AF</td>
<td>$4,080,000</td>
<td>($86,667)</td>
</tr>
<tr>
<td>Mar</td>
<td>$250 per AF</td>
<td>16,667 AF</td>
<td>$4,166,667</td>
<td>$255 per AF</td>
<td>15,000 AF</td>
<td>$3,825,000</td>
<td>($341,667)</td>
</tr>
<tr>
<td>Apr</td>
<td>$250 per AF</td>
<td>16,667 AF</td>
<td>$4,166,667</td>
<td>$260 per AF</td>
<td>14,000 AF</td>
<td>$3,640,000</td>
<td>($526,667)</td>
</tr>
<tr>
<td>May</td>
<td>$250 per AF</td>
<td>16,667 AF</td>
<td>$4,166,667</td>
<td>$270 per AF</td>
<td>13,000 AF</td>
<td>$3,510,000</td>
<td>($656,667)</td>
</tr>
<tr>
<td>Jun</td>
<td>$250 per AF</td>
<td>16,667 AF</td>
<td>$4,166,667</td>
<td>$275 per AF</td>
<td>13,000 AF</td>
<td>$3,575,000</td>
<td>($591,667)</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>100,000 AF</td>
<td>$25,000,002</td>
<td>88,000 AF</td>
<td>$22,880,000</td>
<td></td>
<td>($2,120,002)</td>
</tr>
</tbody>
</table>

\(^1\) Terms in **bold** are defined in § 1.1 of the Agreement.

\(^2\) Rounded to nearest AF.

\(^3\) Rounded to nearest $1.00.
<table>
<thead>
<tr>
<th>MO.</th>
<th>BEGINNING OF YEAR PRICE</th>
<th>DEEMED MONTHLY TRANSFER</th>
<th>MONTHLY PAYMENT</th>
<th>ACTUAL PRICE</th>
<th>ACTUAL DIVERSION</th>
<th>ACTUAL DUE</th>
<th>(OVER) UNDER PAYMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jul</td>
<td>$250 per AF</td>
<td>16,667 AF</td>
<td>$4,166,667</td>
<td>$240 per AF</td>
<td>25,000 AF</td>
<td>$6,000,000</td>
<td>$1,833,333</td>
</tr>
<tr>
<td>Aug</td>
<td>$250 per AF</td>
<td>16,667 AF</td>
<td>$4,166,667</td>
<td>$240 per AF</td>
<td>30,000 AF</td>
<td>$7,200,000</td>
<td>$3,033,333</td>
</tr>
<tr>
<td>Sep</td>
<td>$250 per AF</td>
<td>16,667 AF</td>
<td>$4,166,667</td>
<td>$240 per AF</td>
<td>32,000 AF</td>
<td>$7,680,000</td>
<td>$3,513,333</td>
</tr>
<tr>
<td>Oct</td>
<td>$250 per AF</td>
<td>16,667 AF</td>
<td>$4,166,667</td>
<td>$250 per AF</td>
<td>14,000 AF</td>
<td>$3,500,000</td>
<td>($666,667)</td>
</tr>
<tr>
<td>Nov</td>
<td>$250 per AF</td>
<td>16,667 AF</td>
<td>$4,166,667</td>
<td>$250 per AF</td>
<td>10,000 AF</td>
<td>$2,500,000</td>
<td>($1,666,667)</td>
</tr>
<tr>
<td>Dec</td>
<td>$250 per AF</td>
<td>16,667 AF</td>
<td>$4,166,667</td>
<td>$260 per AF</td>
<td>0 * AF</td>
<td>$260,000</td>
<td>($3,906,667)</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>100,000 AF</td>
<td>$25,000,002</td>
<td></td>
<td>112,000* AF</td>
<td>$27,140,000</td>
<td>$2,139,998</td>
</tr>
</tbody>
</table>

*Because the quantity that the Authority actually diverted is only 199,000 AF, 1,000 AF less than the Agreement specifies, that 1,000 AF is "deemed" delivered during December.

The semi-annual and year-end payment is to reconcile the monthly payments with the actual due so as to result in the same result "as if" each monthly payment had been made in the amount actually due. Suppose that the Treasury Rates for the period 1/1 - 10/31 averaged 0.0145% per day for all portions of the period, then changed to 0.0153% per day through 2/28. (If the average rate changed more frequently, actual average rates for relevant periods would need to be used. See § 6.1.)
The Semi-Annual Settling-Up calculation looks like this:

<table>
<thead>
<tr>
<th>MO.</th>
<th>MONTHLY PAYMENT</th>
<th>ACTUAL DUE</th>
<th>(OVER)/UNDER PAYMENT [A]</th>
<th>DUE DATE</th>
<th>SETTLING-UP DATE</th>
<th>NO. OF DAYS BETWEEN DUE DATE &amp; SETTLING UP DATE</th>
<th>TREASURY RATE PER DAY</th>
<th>SIMPLE INTEREST [B]</th>
<th>(OVER) UNDER PLUS INTEREST [A+B]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan</td>
<td>$4,166,667</td>
<td>$4,250,000</td>
<td>$83,333</td>
<td>10th Bus. day of March (3/12)</td>
<td>10th Bus. Day of Aug. (8/13)</td>
<td>143</td>
<td>0.0145%</td>
<td>$1,728</td>
<td>$85,061</td>
</tr>
<tr>
<td>Feb</td>
<td>$4,166,667</td>
<td>$4,080,000</td>
<td>($86,667)</td>
<td>10th Bus. day of April (4/14)</td>
<td>10th Bus. Day of Aug. (8/13)</td>
<td>122</td>
<td>0.0145%</td>
<td>($1,533)</td>
<td>($88,200)</td>
</tr>
<tr>
<td>Mar</td>
<td>$4,166,667</td>
<td>$3,825,000</td>
<td>($341,667)</td>
<td>10th Bus. day of May (5/14)</td>
<td>10th Bus. Day of Aug. (8/13)</td>
<td>92</td>
<td>0.0145%</td>
<td>($4,558)</td>
<td>($346,225)</td>
</tr>
<tr>
<td>Apr</td>
<td>$4,166,667</td>
<td>$3,640,000</td>
<td>($526,667)</td>
<td>10th Bus. day of June (6/14)</td>
<td>10th Bus. Day of Aug. (8/13)</td>
<td>61</td>
<td>0.0145%</td>
<td>($4,658)</td>
<td>($531,325)</td>
</tr>
<tr>
<td>May</td>
<td>$4,166,667</td>
<td>$3,510,000</td>
<td>($656,667)</td>
<td>10th Bus. day of July (7/14)</td>
<td>10th Bus. Day of Aug. (8/13)</td>
<td>31</td>
<td>0.0145%</td>
<td>($2,952)</td>
<td>($659,619)</td>
</tr>
<tr>
<td>June</td>
<td>$4,166,667</td>
<td>$3,575,000</td>
<td>($591,667)</td>
<td>10th Bus. day of Aug. (8/13)</td>
<td>10th Bus. Day of Aug. (8/13)</td>
<td>0</td>
<td>0.0145%</td>
<td>$0</td>
<td>($591,667)</td>
</tr>
<tr>
<td>TOTAL</td>
<td>$25,000,002</td>
<td>$22,880,000</td>
<td>($2,120,002)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>($11,973)</td>
<td>($2,131,975)</td>
</tr>
</tbody>
</table>
The year end annual Final Settling-Up calculation looks like this:

<table>
<thead>
<tr>
<th>MO.</th>
<th>MONTHLY PAYMENT</th>
<th>ACTUAL DUE</th>
<th>(OVER/UNDER PAYMENT) [A]</th>
<th>DUE DATE</th>
<th>SETTLING-UP DATE</th>
<th>NO. OF DAYS BETWEEN DUE DATE &amp; SETTLING-UP DATE</th>
<th>TREASURY RATE PER DAY [B]</th>
<th>SIMPLE INTEREST (OVER UNDER PLUS INTEREST) [A]+[B]</th>
<th>YEAR END ADJUSTMENT</th>
<th>(OVER) UNDER YEAR END ADJUSTMENT PLUS INTEREST</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan</td>
<td>$4,166,667</td>
<td>$4,250,000</td>
<td>$83,333</td>
<td>10th Bus. day of March (3/12)</td>
<td>10th Bus. Day of Aug. (8/13)</td>
<td>143</td>
<td>0.0145%</td>
<td>$1,728</td>
<td>$85,061</td>
<td>$0.00</td>
</tr>
<tr>
<td>Feb</td>
<td>$4,166,667</td>
<td>$4,080,000</td>
<td>($86,667)</td>
<td>10th Bus. day of April (4/14)</td>
<td>10th Bus. Day of Aug. (8/13)</td>
<td>122</td>
<td>0.0145%</td>
<td>($1,533)</td>
<td>($88,200)</td>
<td>$0.00</td>
</tr>
<tr>
<td>Mar</td>
<td>$4,166,667</td>
<td>$3,825,000</td>
<td>($341,667)</td>
<td>10th Bus. day of May (5/14)</td>
<td>10th Bus. Day of Aug. (8/13)</td>
<td>92</td>
<td>0.0145%</td>
<td>($4,558)</td>
<td>($346,225)</td>
<td>$0.00</td>
</tr>
<tr>
<td>Apr</td>
<td>$4,166,667</td>
<td>$3,640,000</td>
<td>($526,667)</td>
<td>10th Bus. day of June (6/14)</td>
<td>10th Bus. Day of Aug. (8/13)</td>
<td>61</td>
<td>0.0145%</td>
<td>($4,658)</td>
<td>($531,325)</td>
<td>$0.00</td>
</tr>
<tr>
<td>May</td>
<td>$4,166,667</td>
<td>$3,510,000</td>
<td>($656,667)</td>
<td>10th Bus. day of July (7/14)</td>
<td>10th Bus. Day of Aug. (8/13)</td>
<td>31</td>
<td>0.0145%</td>
<td>($2,952)</td>
<td>($659,619)</td>
<td>$0.00</td>
</tr>
<tr>
<td>June</td>
<td>$4,166,667</td>
<td>$3,575,000</td>
<td>($591,667)</td>
<td>10th Bus. Day of Aug. (8/13)</td>
<td>10th Bus. Day of Aug. (8/13)</td>
<td>0</td>
<td>0.0145%</td>
<td>$0</td>
<td>($591,667)</td>
<td>$0.00</td>
</tr>
<tr>
<td>July</td>
<td>$4,166,667</td>
<td>$6,000,000</td>
<td>$1,833,333</td>
<td>10th Bus. day of Sept. (9/15)</td>
<td>10th Bus. Day of Feb. (2/12)</td>
<td>151</td>
<td>0.0145%</td>
<td>$40,141</td>
<td>$1,873,474</td>
<td>N/A</td>
</tr>
<tr>
<td>MO.</td>
<td>MONTHLY PAYMENT</td>
<td>ACTUAL DUE</td>
<td>(OVER)/ UNDER PAYMENT</td>
<td>DUE DATE</td>
<td>SETTLING-UP DATE</td>
<td>NO. OF DAYS BETWEEN DUE DATE &amp; SETTLING UP DATE</td>
<td>TREASURY RATE PER DAY</td>
<td>SIMPLE INTEREST</td>
<td>(OVER)/ UNDER PLUS INTEREST</td>
<td>YEAR END ADJUSTMENT</td>
</tr>
<tr>
<td>-----</td>
<td>-----------------</td>
<td>------------</td>
<td>------------------------</td>
<td>----------</td>
<td>------------------</td>
<td>-----------------------------------------------</td>
<td>----------------------</td>
<td>----------------</td>
<td>--------------------------------</td>
<td>-------------------</td>
</tr>
<tr>
<td>Aug.</td>
<td>$4,166,667</td>
<td>$7,200,000</td>
<td>$3,033,333</td>
<td>10th Bus. day of Oct. (10/14)</td>
<td>10th Bus. Day of Feb. (2/12)</td>
<td>122</td>
<td>0.0145%</td>
<td>$53,660</td>
<td>$3,868,993</td>
<td>N/A</td>
</tr>
<tr>
<td>Sept.</td>
<td>$4,166,667</td>
<td>$7,680,000</td>
<td>$3,513,333</td>
<td>10th Bus. day of Nov. (11/12)</td>
<td>10th Bus. Day of Feb. (2/12)</td>
<td>93</td>
<td>0.0145%</td>
<td>$47,377</td>
<td>$3,560,710</td>
<td>N/A</td>
</tr>
<tr>
<td>Oct.</td>
<td>$4,166,667</td>
<td>$3,500,000</td>
<td>($666,667)</td>
<td>10th Bus. day of Dec. (12/14)</td>
<td>10th Bus. Day of Feb. (2/12)</td>
<td>61</td>
<td>0.0145%</td>
<td>($5,897)</td>
<td>($672,564)</td>
<td>N/A</td>
</tr>
<tr>
<td>Nov.</td>
<td>$4,166,667</td>
<td>$2,500,000</td>
<td>($1,666,667)</td>
<td>10th Bus. day of Jan. (1/14)</td>
<td>10th Bus. Day of Feb. (2/12)</td>
<td>35</td>
<td>0.0153%</td>
<td>($8,925)</td>
<td>($1,675,592)</td>
<td>N/A</td>
</tr>
<tr>
<td>Dec.</td>
<td>$4,166,667</td>
<td>$260,000</td>
<td>($3,906,667)</td>
<td>10th Bus. day of Feb. (2/12)</td>
<td>10th Bus. Day of Feb. (2/12)</td>
<td>0</td>
<td>0.0153%</td>
<td>$0</td>
<td>($3,906,667)</td>
<td>N/A</td>
</tr>
<tr>
<td>TOTAL</td>
<td>$25,000,002</td>
<td>$27,140,000</td>
<td>$2,139,998</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$126,356</td>
<td>$2,266,354</td>
<td></td>
</tr>
</tbody>
</table>

August Settling-Up Payment of $2,131,975 paid by the IID to the Authority

February Settling-Up Payment of $2,266,354 paid by the Authority to the IID. (The final annual Settling-Up equals the year-end adjustments to the August Settling-Up payment, if any, plus the July to December Settling-Up total.)
Exhibit J: Contribution to Satisfaction of Conditions

This exhibit illustrates the necessary calculations for either Party\textsuperscript{1} to exercise their right to contribute the additional costs, in excess of the specified caps, to satisfy the Wheeling and the Environmental Mitigation conditions in Article 7 and Article 8 of the Agreement.

**Wheeling Condition**

The Wheeling condition of the Agreement requires that:

1. The **Actual Wheeling Rate** be determined by a methodology consistent with the definition of the **Base Wheeling Rate**;

2. The **Authority** is only required to pay to **MWD** an Actual Wheeling Rate, exclusive of any **Supplemental Wheeling Charge**, that does not exceed the Base Wheeling Rate;

3. The **Supplemental Wheeling Rate** does not exceed $60 per AF;

4. The Supplemental Wheeling Charge shall only be paid on the quantity of any Flood Control Releases available for diversion by MWD that were not diverted by MWD into the **Colorado River Aqueduct** in that month because the Authority wheeled **Conserved Water** through the Colorado River Aqueduct in that month;

5. **MWD** makes available to the Authority at the **Conveyance Path Terminus** the same quantity of Colorado River water that the Authority makes available to MWD at Lake Havasu, less **Conveyance Losses**;

\textsuperscript{1} Terms in **bold** are defined in § 1.1 of the Agreement.
6. The Conveyance Losses deducted by MWD for wheeling from Lake Havasu to the Conveyance Path Terminus shall be equal to or less than one and one-half percent (1-1/2%) of the Conserved Water volume diverted at Lake Havasu;

7. The Initial Term for access begins no later than the Initial Transfer Date and ends no earlier than the expiration of the Initial Term.

Pursuant to Article 7.3 for the Authority and Article 8.3 for the IID, a Party may pay the additional costs, such that the net economic effect on the other Party is the same as if the condition had been satisfied.

Suppose that the Actual Wheeling Rate is determined by a methodology inconsistent with the definition of the Base Wheeling Rate that yields a higher wheeling rate than the Base Wheeling Rate, the Supplemental Wheeling Charge exceeds $60 per AF, and the Supplemental Wheeling Charge were paid according to a criteria which included both the circumstances defined in this Agreement (see point 4 above) and other circumstances. Suppose further that Party A does not waive the wheeling condition, but Party B wishes to exercise its right to contribute for the satisfaction of the wheeling condition. Then the calculation of the Base Contract Price shall be based on the Base Wheeling Rate calculated according to the methodology specified in this Agreement, a Supplemental Wheeling Charge of $60 per AF only paid on the quantity of any Flood Control Releases available for diversion by MWD that were not diverted by MWD into the Colorado River Aqueduct in that month because the Authority wheeled Conserved Water through the Colorado River Aqueduct in that month. For the entire Initial Term of this Agreement, Party B shall pay:
1. The Actual Wheeling Rates in excess of the Base Wheeling Rate when there is no Supplemental Wheeling Charge;

2. The portion of the Supplemental Wheeling Charge in excess of $60 per AF paid on the quantity of any Flood Control Releases available for diversion by MWD that were not diverted by MWD into the Colorado River Aqueduct in that month because the Authority wheeled Conserved Water through the Colorado River Aqueduct in that month;

3. The entire Supplemental Wheeling Charge paid in circumstances other than those specified in this Agreement.

For example, suppose that the actual wheeling arrangements were the following:

Wheeling rate without hydrologic surplus: Base Wheeling Rate + $15 per AF

Supplemental Wheeling Charge: $70 per AF

Criteria for payment of Supplemental Wheeling Charge: During hydrologic surplus defined as a one-year spill avoidance criteria, which includes releases of surplus water from Lake Mead under (a) the circumstances for the payment of the Supplemental Wheeling Charge under this Agreement, and (b) other hydrologic circumstances.

For the Exemplar Base Contract Price calculation in Exhibit A (p. 72), the Base Wheeling Rate remains at $68.50 per AF, even though the actual wheeling arrangements call for a wheeling rate of $83.50 per AF. The adjustment of the Base Contract Price for a Supplemental Wheeling Charge would only occur during Flood Control Releases and not...
during the other hydrologic circumstances allowed by the one-year spill avoidance criteria.

When such an adjustment in the Base Contract Price occurs, the calculation uses $60 per AF for the Supplemental Wheeling Charge, not the $70 per AF charge under the actual wheeling arrangements. Party B must pay the additional $15 per AF wheeling rate without a hydrologic surplus, the additional $10 per AF Supplemental Wheeling Charge during Flood Control Releases, and the entire $70 per AF Supplemental Wheeling Charge under the other hydrologic circumstances.

Environmental Mitigation

The Environmental Mitigation conditions of this Agreement include the following:

1. Authority Environmental Cost Ceiling;
2. IID Environmental Cost Ceiling;
3. Post-Effective Date cost ceilings.

For a discussion of the calculation of these ceilings for the IID, see Exhibit H.

Limit on initial IID mitigation obligations. Suppose that, based on the Environmental Decision Date present value analysis, the IID concludes that the IID’s mitigation obligation might exceed $15 million (Effective-Date Dollars), the condition on environmental mitigation has not been satisfied, and, therefore, the IID determines that it wishes to terminate the Agreement. Suppose further that the Authority wishes to exercise its right to contribute for the satisfaction of the IID’s environmental mitigation obligation. Then for the Initial Term and Renewal Term, if any, of this Agreement, the IID shall be obligated to spend up to the annual limit on mitigation expenditures as defined below.

The Authority shall be obligated to reimburse the IID, each year, for the excess of actual
mitigation expenditures over the IID’s annual limit on mitigation expenditures for the
Initial Term and the Renewal Term, if any, of this Agreement.

The method for calculating the IID’s annual limit on mitigation expenditures
depends on whether the IID projects that its mitigation expenditures exceed or might
exceed its Environmental Cost Ceiling. Suppose, for example, that the IID projects that
its mitigation expenditures exceed $15 million (Effective-Date Dollars). Then the annual
limit on the IID’s mitigation expenditures in every year would be calculated and equal to
the projected annual mitigation expenditure in that year, multiplied by the adjustment
factor. The adjustment factor equals the ratio of the IID’s Environmental Cost Ceiling to
the present value of IID’s projected mitigation expenditures. For example, suppose that
the present value of IID’s projected mitigation expenditures were $20 million (Effective-
Date Dollars). Then the adjustment factor would be 75% ($15 million ÷ $20 million). For
example, if IID’s projected mitigation expenditures for the year 2010 were $1 million and
for the year 2011 were $1.1 million, then the IID’s annual limit on its mitigation
expenditures would be $750,000 (75% of $1 million) in the year 2010 and $825,000 (75%
of $1.1 million) in the year 2011.

Alternatively, suppose that the IID determines, in its complete discretion, that
while the present value of its mitigation expenditures is less than $15 million (Effective-
Date Dollars), it might exceed $15 million. Then the annual limit on the IID’s mitigation
expenditures in every year would equal the projected annual mitigation expenditure in that
year, multiplied by the adjustment factor. The adjustment factor equals the ratio of the
present value of the IID’s Environmental Cost Ceiling to the IID’s projected mitigation
expenditures. For example, suppose that the present value of the IID's projected mitigation expenditures were $14 million (Effective-Date Dollars). Then the adjustment factor would be 1.07 ($15 million ÷ $14 million). For example, if the IID's projected mitigation expenditures for the year 2010 were $750,000 and for the year 2011 were $800,000, then the IID's annual limit on its mitigation expenditures would be $802,500 (1.07 × $750,000) in the year 2010 and $856,000 (1.07 × $800,000) in the year 2011.

Limit on Subsequent IID mitigation obligations. Suppose that the limit on the IID's initial mitigation obligations were satisfied, but in the year 2020 the limit on subsequent IID mitigation obligations was projected to be exceeded, and the IID concludes that it wishes to exercise its right to terminate the Agreement. Suppose further that the Authority wishes to exercise its right to contribute for the satisfaction of the IID's environmental mitigation obligation. Then for the remainder of the Initial Term and a Renewal Term, if any, of the Agreement, the IID shall be obligated to spend up to an annual limit on mitigation expenditures as defined below. The Authority shall be obligated to reimburse the IID, each year, for the excess of actual mitigation expenditures over the IID's annual limit on mitigation expenditures for the remainder of the Initial Term and the Renewal Term, if any, of the Agreement.

The calculation of the IID's annual limit on mitigation expenditures is based on the projection the IID relies upon to conclude that its mitigation obligation, as of the year 2020, exceeds $30 million (Effective-Date Dollars). Suppose, for example, that this projection yields a calculated present value of IID's mitigation expenditures of $42.8 million (Effective-Date Dollars). The ratio of the IID's ceiling ($30 million in Effective-
Date Dollars) to the present value of IID’s projected mitigation expenditures equals 70%.
Then the annual limit on IID’s mitigation expenditures in any year would equal 70% of the
projected annual mitigation expenditures. For example, if IID’s projected that its
mitigation expenditures in the year 2020 would be $1.5 million, then the annual limit on
IID’s mitigation expenditures in the year 2020 would be $1.05 (70% of $1.5 million).

*Limit on initial Authority mitigation obligations.* Suppose that, based on the
Environmental Decision Date present value analysis, the projection of the Authority’s
mitigation obligation exceeds its Environmental Cost Ceiling of $1 million (Effective-Date
Dollars), the condition on environmental mitigation has not been waived by the Authority,
and the Authority concludes that it wishes to terminate the Agreement. Suppose further
that the IID wishes to exercise its right to contribute for the satisfaction of the Authority’s
environmental mitigation obligation. Then for the Initial Term and Renewal Term, if any,
of this Agreement, the Authority shall be obligated to spend up to an annual limit on
mitigation expenditures. The IID shall be obligated to reimburse the Authority, each year,
for the excess of actual mitigation expenditures over the Authority’s annual limit on
mitigation expenditures for the Initial Term and the Renewal Term, if any, of this
Agreement. The calculation of the Authority’s annual limit on mitigation obligations shall
be based on the projection of the Authority’s mitigation obligation. The calculation shall
follow the method used to calculate the IID’s annual limit on mitigation expenditures
when the IID projects that its mitigation expenditures exceeds its Environmental Cost
Ceiling.


**Limit on subsequent Authority mitigation obligations.** Suppose that the limit on the Authority's initial mitigation obligations were satisfied, but the limit on subsequent Authority mitigation obligations were exceeded, for example, in the year 2020, and the Authority concludes that it wishes to exercise its right to terminate the Agreement. Suppose further that the IID wishes to exercise its right to contribute for the satisfaction of the Authority's environmental mitigation obligation. Then for the remainder of the Initial Term and a Renewal Term, if any, of this Agreement, the Authority shall be obligated to spend up to an annual limit on mitigation expenditures. The IID shall be obligated to reimburse the Authority, each year, for the excess of actual mitigation expenditures over the Authority's annual limit on mitigation expenditures for the remainder of the Initial Term and the Renewal Term, if any, of this Agreement. The calculation of the Authority's annual limit on mitigation expenditures is based on the projection the Authority relies upon to conclude that its mitigation obligation, as of the year 2020, exceeds $2 million (Effective-Date Dollars). The calculation shall follow the method used to calculate the IID's annual limit on mitigation expenditures when the IID projects that its mitigation expenditures exceeds its Environmental Cost Ceiling.
Exhibit K: Form of Bureau of Reclamation Review and Approval

The Secretary of the Interior (Secretary), hereby approves the Agreement for Transfer of Conserved Water (Agreement), dated ________, between the Imperial Irrigation District (IID) and the San Diego County Water Authority (Authority), and agrees to the following:

1. The Secretary has the delegated authority to approve the Agreement on behalf of the Secretary pursuant to the Boulder Canyon Project Act of 1928, Act of December 21, 1928, 45 Stat. 1057, as amended, 43 U.S.C. § 617 et seq., and other applicable authorities.

2. The Bureau of Reclamation (BOR) will account for the Conserved Water (as defined in the Agreement) to be transferred by the IID to the Authority, in the decree accounting required under the 1964 Arizona v. California decree, as follows:

   a. The Conserved Water will be accounted for as a part of IID's diversion and beneficial use, considered Colorado River water diverted under IID's Senior Water Rights (as defined in the Agreement), and IID's Senior Water Rights will be unaffected by IID's transfer of Conserved Water to the Authority;

   b. For accounting purposes, the amount of Conserved Water made available by IID and transferred to the Authority will be verified as follows: (1) by the BOR and the California State Water Resources Control Board (SWRCB) jointly measuring IID's reduced diversions at Imperial Dam (less return flows) and (2) by the SWRCB's verification of IID's
enforcement of the contractual commitment of participating Landowners to undertake Water Conservation efforts and create Conserved Water (all as defined in the Agreement); and

3. As provided in the Agreement and pursuant to the SWRCB approval process, IID will forbear under its priority 3 water right from diverting (less return flows) in excess of three million one hundred thousand (3,100,000) AFY.

As determined by the SWRCB and as a result of the IID's Water Conservation efforts and transfer of Conserved Water, as of the date of SWRCB approval the IID was in compliance with applicable reasonable and beneficial use requirements.

4. BOR will deliver the Conserved Water to the Authority from Lake Havasu for transportation through the Colorado River Aqueduct. Quantities ordered by the Authority will be considered a component of IID's water orders submitted to the BOR. In times of Shortage (as defined in the Agreement) when the IID's priority 3 right to divert is affected, IID and the Authority orders will be governed by the Shortage Sharing terms of the Agreement, and IID and the Authority will notify the BOR as to how the Shortage Sharing provisions will affect diversions by the Authority and by the IID.

5. Federal environmental compliance has been completed, including public comment, and third party impacts have been addressed and/or mitigated.

By: ________________________________

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SCHEDULES TO AGREEMENT FOR TRANSFER OF CONSERVED WATER
Schedule 10.1(e)

PENDING OR THREATENED DISPUTES REGARDING THE AUTHORITY

Except as disclosed on this Schedule 10.1(e), there are no actions, suits, legal or administrative proceedings, or governmental investigations pending, or to the Authority's knowledge, threatened against or affecting the Authority relating to the performance contemplated by this Agreement, including the IID's Water Conservation efforts, the IID's transfer of Conserved Water to the Authority, and the Authority's payment for such Conserved Water.

Pending Actions, Suits, Legal or Administrative Proceedings, or Governmental Investigations:

None

Threatened Actions, Suits, Legal or Administrative Proceedings, or Governmental Investigations:

Letter dated April 28, 1998 and February 16, 1998 by Tom Levy, General Manager-Chief Engineer, Coachella Valley Water District, to Maureen Stapleton, General Manager, San Diego County Water Authority, relating to the following matters: "CVWD's right to divert and use Colorado River water would be violated;" "IID has no right to transfer water;" "State law does not control the allocation, distribution and use of Colorado River water;" "The San Diego County Water Authority has no contract;" "Failure to comply with California Environmental Quality Act (CEQA)."

Letter dated April 28, 1998 by Jeffrey G. Scott, General Counsel, Vallecitos Water District, to Christine Frahm, Chairman, San Diego County Water Authority, alleging that Section 45-8 of Chapter 45 of the California Water Code Appendix (the County Water Authority Act) requires submission of the proposed agreement to the qualified electors of the San Diego County Water Authority for approval.

Letter dated April 28, 1998 by Paul L. V. Campo, President, Vista Irrigation District, to Christine Frahm, Chair, San Diego County Water Authority, alleging violations of CEQA and lack of quantification of the IID's Colorado River entitlement, among other things not affecting the validity of the contract.
Schedule 10.2(e)

PENDING OR THREATENED DISPUTES REGARDING THE IID

Pending Proceedings (actions or suits, legal or administrative)

1. In the Matters of Alleged Waste and Unreasonable Use of Water by Imperial Irrigation District, State of California State Water Resources Control Board (retained jurisdiction under Decision 1600 and Order 88-20).

2. The Metropolitan Water District of Southern California v. All Persons Interested in the Matter of the Validity of the Fourth Supplemental Resolution of Commercial Paper and Revolving Notes, Supplementing the Security of the Metropolitan Water District's Commercial Paper With Certain Wheeling Rates; Case No. BC164076, Superior Court for the County of Los Angeles; on appeal to the 2nd District Court of Appeal (relating to MWD wheeling rate and wheeling rate establishment methodology).

Threatened Proceedings (actions or suits, legal or administrative)

1. BOR 43 CFR part 417 administrative proceeding (relating to extent of IID's water rights and IID's reasonable and beneficial use of Colorado River water).

2. CVWD (relating to environmental review compliance, legality of transfer, extent of IID's water rights, and reasonable and beneficial use of Colorado River water).

3. MWD, including any member agencies (relating to legality of transfer, extent of IID's water rights, and reasonable and beneficial use of Colorado River water).

Pending Investigations

1. BOR 43 CFR part 417 administrative proceeding (relating to extent of IID's water rights and IID's reasonable and beneficial use of Colorado River water).

2. CVWD (relating to environmental review compliance, legality of transfer, extent of IID's water rights, and reasonable and beneficial use of Colorado River water).

3. MWD, including any member agencies (relating to legality of transfer, extent of IID's water rights, and reasonable and beneficial use of Colorado River water).

Threatened Investigations

None.
APPENDIX TO AGREEMENT FOR TRANSFER OF CONSERVED WATER
APPENDIX 1

STATUTES "AS IN EFFECT" ON EXECUTION DATE OF AGREEMENT FOR TRANSFER OF CONSERVED WATER

California Water Code

§ 100
§ 109
§ 350
§ 1011
§ 1011(a)
§ 1011(b)
§ 1012
§ 1013
§ 1811(b)
§ 1811(d)

33 Code of Federal Regulations 208.11
§ 100. Beneficial use of water

It is hereby declared that because of the conditions prevailing in this State the general welfare requires that the water resources of the State be put to beneficial use to the fullest extent of which they are capable, and that the waste or unreasonable use or unreasonable method of use of water be prevented, and that the conservation of such water is to be exercised with a view to the reasonable and beneficial use thereof in the interest of the people and for the public welfare. The right to water or to the use or flow of water in or from any natural stream or watercourse in this State is and shall be limited to such water as shall be reasonably required for the beneficial use to be served, and such right does not and shall not extend to the waste or unreasonable use or unreasonable method of use or unreasonable method of diversion of water. (Stats.1943, c. 368, p. 1606, § 100.)
§ 109. Efficient use of water; encouragement of voluntary transfer of water and water rights

(a) The Legislature hereby finds and declares that the growing water needs of the state require the use of water in * * * an efficient manner and that the efficient use of water requires * * * certainty in the definition of property rights to the use of water and * * * transferability of such rights. It is hereby declared to be the established policy of this state to * * * facilitate the voluntary transfer of water and water rights where consistent with the public welfare of the place of export and the place of import.

(b) The Legislature hereby directs the Department of Water Resources, the State Water Resources Control Board, and all other appropriate state agencies to encourage voluntary transfers of water and water rights, including, but not limited to, providing technical assistance to persons to identify and implement water conservation measures which will make additional water available for transfer. (Added by Stats.1980, c. 933, p. 2954, § 2. Amended by Stats.1982, c. 867, p. 3220, § 1.)
§ 350. Declaration

The governing body of a distributor of a public water supply, whether publicly or privately owned and including a mutual water company, may declare a water shortage emergency condition to prevail within the area served by such distributor whenever it finds and determines that the ordinary demands and requirements of water consumers cannot be satisfied without depleting the water supply of the distributor to the extent that there would be insufficient water for human consumption, sanitation, and fire protection. (Added by Stats.1953, c. 140, p. 906, § 1.)
§ 1011. Appropriated water rights; cessation or reduction in use; forfeiture; transfer; reversion of rights

(a) When any person entitled to the use of water under an appropriative right fails to use all or any part of the water because of water conservation efforts, any cessation or reduction in the use of the appropriated water shall be deemed equivalent to a reasonable beneficial use of water to the extent of the cessation or reduction in use. No forfeiture of the appropriative right to the water conserved shall occur upon the lapse of the forfeiture period applicable to water appropriated pursuant to the Water Commission Act or this code or the forfeiture period applicable to water appropriated prior to December 19, 1914.

The board may require that any user of water who seeks the benefit of this section file periodic reports describing the extent and amount of the reduction in water use due to water conservation efforts. To the maximum extent possible, the reports shall be made a part of other reports required by the board relating to the use of water. Failure to file the reports shall deprive the user of water of the benefits of this section.

For purposes of this section, the term “water conservation” shall mean the use of less water to accomplish the same purpose or purposes of use allowed under the existing appropriative right. Where water appropriated for irrigation purposes is not used by reason of land falling or crop rotation, the reduced usage shall be deemed water conservation for purposes of this section.

(b) Water, or the right to the use of water, the use of which has ceased or been reduced as the result of water conservation efforts as described in subdivision (a), may be sold, leased, exchanged, or otherwise transferred pursuant to any provision of law relating to the transfer of water or water rights, including, but not limited to, provisions of law governing any change in point of diversion, place of use, and purpose of use due to the transfer.

(c) Notwithstanding any other provision of law, upon the completion of the term of a water transfer agreement, or the right to the use of that water, that is available as a result of water conservation efforts described in subdivision (a), the right to the use of the water shall revert to the transferor as if the water transfer had not been undertaken. (Added by Stats.1979, c. 1112, p. 4047, § 2, eff. Sept. 28, 1979. Amended by Stats.1982, c. 867, p. 3223, § 4; Stats.1996, c. 408 (S.B.1891), § 1.)
§ 1011. Appropriated water rights; cessation or reduction in use; forfeiture; transfer; reversion of rights

(a) When any person entitled to the use of water under an appropriative right fails to use all or any part of the water because of water conservation efforts, any cessation or reduction in the use of the appropriated water shall be deemed equivalent to a reasonable beneficial use of water to the extent of the cessation or reduction in use. No forfeiture of the appropriative right to the water conserved shall occur upon the lapse of the forfeiture period applicable to water appropriated pursuant to the Water Commission Act or this code or the forfeiture period applicable to water appropriated prior to December 19, 1914.

The board may require that any user of water who seeks the benefit of this section file periodic reports describing the extent and amount of the reduction in water use due to water conservation efforts. To the maximum extent possible, the reports shall be made a part of other reports required by the board relating to the use of water. Failure to file the reports shall deprive the user of water of the benefits of this section.

For purposes of this section, the term “water conservation” shall mean the use of less water to accomplish the same purpose or purposes of use allowed under the existing appropriative right. Where water appropriated for irrigation purposes is not used by reason of land fallowing or crop rotation, the reduced usage shall be deemed water conservation for purposes of this section.

(b) Water, or the right to the use of water, the use of which has ceased or been reduced as the result of water conservation efforts as described in subdivision (a), may be sold, leased, exchanged, or otherwise transferred pursuant to any provision of law relating to the transfer of water or water rights, including, but not limited to, provisions of law governing any change in point of diversion, place of use, and purpose of use due to the transfer.
§ 1012. Conservation effort by person, public agency, or United States agency entitled to water from Colorado River; reduction of use within Imperial Irrigation district; no forfeiture, diminution, or impairment of right to use of conserved water

Notwithstanding any other provision of law, where any person, public agency, or agency of the United States undertakes any water conservation effort, either separately or jointly with others entitled to delivery of water from the Colorado River under contracts with the United States, which results in reduced use of Colorado River water within the Imperial Irrigation District, no forfeiture, diminution, or impairment of the right to use the water conserved shall occur, except as set forth in the agreements between the parties and the United States. (Added by Stats.1984, c. 429, § 1.)
§ 1013. Imperial Irrigation District; reduction of water flowing into Salton Sea; liability for effects

The Imperial Irrigation District, acting under a contract with the United States for diversion and use of Colorado River water or pursuant to the Constitution or to this chapter, or complying with an order of the Secretary of the Interior, a court, or the board, to reduce through conservation measures, the volume of the flow of water directly or indirectly into the Salton Sea, shall not be held liable for any effects to the Salton Sea or its bordering area resulting from the conservation measures.

This section shall not be construed to exempt the Imperial Irrigation District from any requirements established under the California Environmental Quality Act (Division 13 (commencing with Section 21000) of the Public Resources Code). (Added by Stats.1987, c. 629, § 1.)
§ 1811. Definitions

As used in this article, the following terms shall have the following meanings:

(b) "Emergency" means a sudden occurrence such as a storm, flood, fire, or an unexpected equipment outage impairing the ability of a person or public agency to make water deliveries.
§ 1811. Definitions

As used in this article, the following terms shall have the following meanings:

(d) “Replacement costs” mean the reasonable portion of costs associated with material acquisition for the correction of unrepairable wear or other deterioration of conveyance facility parts which have an anticipated life which is less than the conveyance facility repayment period and which costs are attributable to the proposed use.
TITLE 33--NAVIGATION AND NAVIGABLE WATERS

CHAPTER II--CORPS OF ENGINEERS, DEPARTMENT OF THE ARMY

PART 208--FLOOD CONTROL REGULATIONS--Table of Contents

Sec. 208.11 Regulations for use of storage allocated for flood control or navigation and regulations by the Secretary of the Army in the interest of flood control and navigation.

(a) Purpose. This regulation prescribes the responsibilities and general procedures for regulating reservoir projects capable of regulation for flood control or navigation and the use of storage allocated for such purposes and provided on the basis of flood control and navigation, except projects owned and operated by the Corps of Engineers; the International Boundary and Water Commission, United States and Mexico; and those under the jurisdiction of the International Joint Commission, United States, and Canada, and the Columbia River Treaty. The intent of this regulation is to establish an understanding between project owners, operating agencies, and the Corps of Engineers.

(b) Responsibilities. The basic responsibilities of the Corps of Engineers regarding project operation are set out in the cited authority and described in the following paragraphs:

(1) Section 7 of the Flood Control Act of 1944 (58 Stat. 890, 33 U.S.C. 709) directs the Secretary of the Army to prescribe regulations for the use of storage allocated for flood control or navigation at all reservoirs constructed wholly or in part with Federal funds provided on the basis of such purposes, and the operation of any such project shall be in accordance with such regulations: Provided, That this section shall not apply to the Tennessee Valley Authority, except that in case of danger from floods on the lower Ohio and Mississippi Rivers the Tennessee Valley Authority is directed to regulate the release of water from the Tennessee River into the Ohio River in accordance with such instructions as may be issued by the War Department.

(2) Section 9 of Public Law 436-83d Congress (68 Stat. 303) provides for the development of the Coosa River, Alabama and Georgia, and directs the Secretary of the Army to prescribe rules and regulations for project operation in the interest of flood control and navigation as follows:

The operation and maintenance of the dams shall be subject to reasonable rules and regulations of the Secretary of the Army in the interest of flood control and navigation.

Note: This Regulation will also be applicable to dam and reservoir projects operated under provisions of future legislative acts wherein the Secretary of the Army is directed to prescribe rules and regulations in the interest of flood control and navigation. The Chief of Engineers, U.S. Army Corps of Engineers, is designated the duly authorized representative of the Secretary of the Army to exercise the authority.
set out in the Congressional Acts. This Regulation will normally be implemented by letters of understanding between the Corps of Engineers and project owner and will incorporate the provisions of such letters of understanding prior to the time construction renders the project capable of significant impoundment of water. A water control agreement signed by both parties will follow when deliberate impoundment first begins or at such time as the responsibilities of any Corps-owned projects may be transferred to another entity. Promulgation of this Regulation for a given project will occur at such time as the name of the project appears in the Federal Register in accordance with the requirements of paragraph 6k. When agreement on a water control plan cannot be reached between the Corps and the project owner after coordination with all interested parties, the project name will be entered in the Federal Register and the Corps of Engineers plan will be the official water control plan until such time as differences can be resolved.


(i) Responsibilities of the Secretary of the Army and/or the Chief of Engineers in FERC licensing actions are set forth in reference 3c above and pertinent sections are cited herein. The Commission may further stipulate as a licensing condition, that a licensee enter into an agreement with the Department of the Army providing for operation of the project during flood times, in accordance with rules and regulations prescribed by the Secretary of the Army.

(A) Section 4(e) of the Federal Power Act requires approval by the Chief of Engineers and the Secretary of the Army of plans of dams or other structures affecting the navigable capacity of any navigable waters of the United States, prior to issuance of a license by the Commission as follows:

The Commission is hereby authorized and empowered to issue licenses to citizens * * * for the purpose of constructing, operating and maintaining dams, water conduits, reservoirs, powerhouses, transmission lines, or other project works necessary or convenient for the development and improvement of navigation and for the development, transmission, and utilization of power across, along, from or in any of the streams or other bodies of water over which Congress has jurisdiction * * * Provided further, That no license affecting the navigable capacity of any navigable waters of the United States shall be issued until the plans of the dam or other structures affecting navigation have been approved by the Chief of Engineers and the Secretary of the Army.

(B) Sections 10(a) and 10(c) of the Federal Power Act specify conditions of project licenses including the following:

(1) Section 10(a). "That the project adopted * * * shall be such as in the judgment of the Commission will be best adapted to a comprehensive plan for improving or developing a waterway or waterways for the use or benefit of interstate or foreign commerce, for the improvement and utilization of waterpower development, and for other beneficial public uses * * *".

(2) Section 10(c). "That the licensee shall * * * so maintain and operate said works as not to impair navigation, and shall conform to such rules and regulations as the Commission may from time to time prescribe for the protection of life, health, and property * * *".

(C) Section 18 of the Federal Power Act directs the operation of any navigation facilities built under the provision of that Act, be

controlled by rules and regulations prescribed by the Secretary of the Army as follows:

The operation of any navigation facilities which may be constructed as part of or in connection with any dam or diversion structure built under the provisions of this Act, whether at the expense of a licensee hereunder or of the United States, shall at all times be controlled by such reasonable rules and regulations in the interest of navigation; including the control of the pool caused by such dam or diversion structure as may be made from time to time by the Secretary of the Army.

(ii) Federal Power Commission Order No. 540 issued October 31, 1975, and published November 7, 1975 (40 FR 51998), amending Sec. 2.9 of the Commission's General Policy and Interpretations prescribed Standardized Conditions (Forms) for Inclusion in Preliminary Permits and Licenses Issued Under part I of the Federal Power Act. As an example, Article 12 of Standard Form L-3, titled: "Terms and Conditions of License for Constructed Major Projects Affecting Navigable Waters of the United States," sets forth the Commission's interpretation of appropriate sections of the Act, which deal with navigation aspects, and attendant responsibilities of the Secretary of the Army in licensing actions as follows:

The United States specifically retains and safeguards the right to use water in such amount, to be determined by the Secretary of the Army, as may be necessary for the purposes of navigation on the navigable waterway affected; and the operations of the Licensee, so far as they affect the use, storage and discharge from storage of waters affected by the license, shall at all times be controlled by such reasonable rules and regulations as the Secretary of the Army may prescribe in the interest of navigation, and as the Commission may prescribe for the protection of life, health, and property, and the Licensee shall release water from the project reservoir at such rate as the Secretary of the Army may prescribe in the interest of navigation, or as the Commission may prescribe for the other purposes hereinbefore mentioned.

(c) Scope and terminology. This regulation applies to Federal authorized flood control and/or navigation storage projects, and to non-Federal projects which require the Secretary of the Army to prescribe regulations as a condition of the license, permit or legislation, during the planning, design and construction phases, and throughout the life of the project. In compliance with the authority cited above, this regulation defines certain activities and responsibilities concerning water control management throughout the Nation in the interest of flood control and navigation. In carrying out the conditions of this regulation, the owner and/or operating agency will comply with applicable provisions of Pub. L. 85-624, the Fish and Wildlife Coordination Act of 1958, and Pub. L.

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92-500, the Federal Water Pollution Control Act Amendments of 1972. This regulation does not apply to local flood protection works governed by Sec. 208.10, or to navigation facilities and associated structures which are otherwise covered by part 207 (Navigation Regulations) of title 33 of the code. Small reservoirs, containing less than 12,500 acre-feet of flood control or navigation storage, may be excluded from this regulation and covered under Sec. 208.10, unless specifically required by law or conditions of the license or permit.

(1) The terms reservoir and project as used herein include all water resource impoundment projects constructed or modified, including natural

(2) The term project owner refers to the entity responsible for maintenance, physical operation, and safety of the project, and for carrying out the water control plan in the interest of flood control and/or navigation as prescribed by the Corps of Engineers. Special arrangements may be made by the project owner for 'operating agencies' to perform these tasks.

(3) The term letter of understanding as used herein includes statements which consummate this regulation for any given project and define the general provisions or conditions of the local sponsor, or owner, cooperation agreed to in the authorizing legislative document, and the requirements for compliance with section 7 of the 1944 Flood Control Act, the Federal Power Act or other special congressional act. This information will be specified in the water control plan and manual. The letter of understanding will be signed by a duly authorized representative of the Chief of Engineers and the project owner. A ''field working agreement'' may be substituted for a letter of understanding, provided that the specified minimum requirements of the latter, as stated above, are met.

(4) The term water control agreement refers to a compilation of water control criteria, guidelines, diagrams, release schedules, rule curves and specifications that basically govern the use of reservoir storage space allocated for flood control or navigation and/or release functions of a water control project for these purposes. In general, they indicate controlling or limiting rates of discharge and storage space required for flood control and/or navigation, based on the runoff potential during various seasons of the year.

(5) For the purpose of this regulation, the term water control plan is limited to the plan of regulation for a water resources project in the interest of flood control and/or navigation. The water control plan must conform with proposed allocations of storage capacity and downstream conditions or other requirements to meet all functional objectives of the particular project, acting separately or in combination with other projects in a system.

(6) The term real-time denotes the processing of current information or data in a sufficiently timely manner to influence a physical response in the system being monitored and controlled. As used herein the term connotes * * * the analyses for and execution of water control decisions for both minor and major flood events and for navigation, based on prevailing hydrometeorological and other conditions and constraints, to achieve efficient management of water resource systems.

(d) Procedures--(1) Conditions during project formulation. During the planning and design phases, the project owner should consult with the Corps of Engineers regarding the quantity and value of space to reserve in the reservoir for flood control and/or navigation purposes, and for utilization of the space, and other requirements of the license, permit or conditions of the law. Relevant matters that bear upon flood control and navigation accomplishment include: Runoff potential, reservoir discharge capability, downstream channel characteristics, hydrometeorological data collection, flood hazard, flood damage characteristics, real estate acquisition for flowage requirements (fee and easement), and resources required to carry out the water control plan. Advice may also be sought on determination of and regulation for the probable maximum or other design flood under consideration by the project owner to establish the quantity of surcharge storage space, and freeboard elevation of top of dam

or embankment for safety of the project.

(2) Corps of Engineers involvement. If the project owner is responsible for real-time implementation of the water control plan, consultation and assistance will be provided by the Corps of Engineers when appropriate and to the extent possible. During any emergency that
affects flood control and/or navigation, the Corps of Engineers may temporarily prescribe regulation of flood control or navigation storage space on a day-to-day (real-time) basis without request of the project owner. Appropriate consideration will be given for other authorized project functions. Upon refusal of the project owner to comply with regulations prescribed by the Corps of Engineers, a letter will be sent to the project owner by the Chief of Engineers or his duly authorized representative describing the reason for the regulations prescribed, events that have transpired, and notification that the project owner is in violation of the Code of Federal Regulations. Should an impasse arise, in that the project owner or the designated operating entity persists in noncompliance with regulations prescribed by the Corps of Engineers, measures may be taken to assure compliance.

(3) Corps of Engineers implementation of real-time water control decisions. The Corps of Engineers may prescribe the continuing regulation of flood control storage space for any project subject to this regulation on a day-to-day (real-time) basis. When this is the case, consultation and assistance from the project owner to the extent possible will be expected. Special requests by the project owner, or appropriate operating entity, are preferred before the Corps of Engineers offers advice on real-time regulation during surcharge storage utilization.

(4) Water control plan and manual. Prior to project completion, water control managers from the Corps of Engineers will visit the project and the area served by the project to become familiar with the water control facilities, and to insure sound formulation of the water control plan. The formal plan of regulation for flood control and/or navigation, referred to herein as the water control plan, will be developed and documented in a water control manual prepared by the Corps of Engineers. Development of the manual will be coordinated with the project owner to obtain the necessary pertinent information, and to insure compatibility with other project purposes and with surcharge regulation. Major topics in the manual will include: Authorization and description of the project, hydrometeorology, data collection and communication networks, hydrologic forecasting, the water control plan, and water resource management functions, including responsibilities and coordination for water control decisionmaking. Special instructions to the dam tender or reservoir manager on data collection, reporting to higher Federal authority, and on procedures to be followed in the event of a communication outage under emergency conditions, will be prepared as an exhibit in the manual. Other exhibits will include copies of this regulation, letters of understanding consummating this regulation, and the water control agreements. After approval by the Chief of Engineers or his duly authorized representative, the manual will be furnished the project owner.

(5) Water control agreement. (i) A water control diagram (graphical) will be prepared by the Corps of Engineers for each project having variable space reservation for flood control and/or navigation during the year; e.g., variable seasonal storage, joint-use space, or other rule curve designation. Reservoir inflow parameters will be included on the diagrams when appropriate. Concise notes will be included on the diagrams prescribing the use of storage space in terms of release schedules, runoff, nondamaging or other controlling flow rates downstream of the damsite, and other major factors as appropriate. A water control release schedule will be prepared in tabular form for projects that do not have variable space reservation for flood control and/or navigation. The water control diagram or release schedule will be signed by a duly authorized representative of the Chief of Engineers, the project owner, and the designated operating agency, and will be used as the basis for carrying out this regulation.

Each diagram or schedule will contain a reference to this regulation.
(ii) When deemed necessary by the Corps of Engineers, information given on the water control diagram or release schedule will be supplemented by appropriate text to assure mutual understanding on certain details or other important aspects of the water control plan not covered in this regulation, on the water control diagram or in the release schedule. This material will include clarification of any aspects that might otherwise result in unsatisfactory project performance in the interest of flood control and/or navigation. Supplementation of the agreement will be necessary for each project where the Corps of Engineers exercises the discretionary authority to prescribe the flood control regulation on a day-to-day (real-time) basis. The agreement will include delegation of the responsibility. The document should also cite, as appropriate, section 7 of the 1944 Flood Control Act, the Federal Power Act and/or other congressional legislation authorizing construction an/or directing operation of the project.

(iii) All flood control regulations published in the Federal Register under this section (part 208) of the code prior to the date of this publication which are listed in Sec. 208.11(e) are hereby superseded.

(iv) Nothing in this regulation prohibits the promulgation of specific regulations for a project in compliance with the authorizing acts, when agreement on acceptable regulations cannot be reached between the Corps of Engineers and the owner.

(6) Hydrometeorological instrumentation. The project owner will provide instrumentation in the vicinity of the damsite and will provide communication equipment necessary to record and transmit hydrometeorological and reservoir data to all appropriate Federal authorities on a real-time basis unless there are extenuating circumstances or are otherwise provided for as a condition of the license or permit. For those projects where the owner retains responsibility for real-time implementation of the water control plan, the owner will also provide or arrange for the measurement and reporting of hydrometeorological parameters required within and adjacent to the watershed and downstream of the damsite, sufficient to regulate the project for flood control and/or navigation in an efficient manner. When data collection stations outside the immediate vicinity of the damsite are required, and funds for installation, observation, and maintenance are not available from other sources, the Corps of Engineers may agree to share the costs for such stations with the project owner. Availability of funds and urgency of data needs are factors which will be considered in reaching decisions on cost sharing.

(7) Project safety. The project owner is responsible for the safety of the dam and appurtenant facilities and for regulation of the project during surcharge storage utilization. Emphasis upon the safety of the dam is especially important in the event surcharge storage is utilized, which results when the total storage space reserved for flood control is exceeded. Any assistance provided by the Corps of Engineers concerning surcharge regulation is to be utilized at the discretion of the project owner, and does not relieve the owner of the responsibility for safety of the project.

(8) Notification of the general public. The Corps of Engineers and other interested Federal and State agencies, and the project owner will jointly sponsor public involvement activities, as appropriate, to fully apprise the general public of the water control plan. Public meetings or other effective means of notification and involvement will be held, with the initial meeting being conducted as early as practicable but not later than the time the project first becomes operational. Notice of the initial public meeting shall be published once a week for 3 consecutive weeks in one or more newspapers of general circulation published in each county covered by the water control plan. Such notice shall also be used when appropriate to inform the public of modifications in the water control plan. If no newspaper is published in a county, the notice shall be published in one or more newspapers of general circulation within
that county. For the purposes of this section a newspaper is one qualified to publish public notices under applicable State law. Notice

shall be given in the event significant problems are anticipated or experienced that will prevent carrying out the approved water control plan or in the event that an extreme water condition is expected that could produce severe damage to property or loss of life. The means for conveying this information shall be commensurate with the urgency of the situation. The water control manual will be made available for examination by the general public upon request at the appropriate office of the Corps of Engineers, project owner or designated operating agency.

(9) Other generalized requirements for flood control and navigation. (i) Storage space in the reservoirs allocated for flood control and navigation purposes shall be kept available for those purposes in accordance with the water control agreement, and the plan of regulation in the water control manual.

(ii) Any water impounded in the flood control space defined by the water control agreement shall be evacuated as rapidly as can be safely accomplished without causing downstream flows to exceed the controlling rates; i.e., releases from reservoirs shall be restricted insofar as practicable to quantities which, in conjunction with uncontrolled runoff downstream of the dam, will not cause water levels to exceed the controlling stages currently in force. Although conflicts may arise with other purposes, such as hydropower, the plan or regulation may require releases to be completely curtailed in the interest of flood control or safety of the project.

(iii) Nothing in the plan of regulation for flood control shall be construed to require or allow dangerously rapid changes in magnitudes of releases. Releases will be made in a manner consistent with requirements for protecting the dam and reservoir from major damage during passage of the maximum design flood for the project.

(iv) The project owner shall monitor current reservoir and hydrometeorological conditions in and adjacent to the watershed and downstream of the damsite, as necessary. This and any other pertinent information shall be reported to the Corps of Engineers on a timely basis, in accordance with standing instructions to the damtender or other means requested by the Corps of Engineers.

(v) In all cases where the project owner retains responsibility for real-time implementation of the water control plan, he shall make current determinations of: Reservoir inflow, flood control storage utilized, and scheduled releases. He shall also determine storage space and releases required to comply with the water control plan prescribed by the Corps of Engineers. The owner shall report this information on a timely basis as requested by the Corps of Engineers.

(vi) The water control plan is subject to temporary modification by the Corps of Engineers if found necessary in time of emergency. Requests for and action on such modifications may be made by the fastest means of communication available. The action taken shall be confirmed in writing the same day to the project owner and shall include justification for the action.

(vii) The project owner may temporarily deviate from the water control plan in the event an immediate short-term departure is deemed necessary for emergency reasons to protect the safety of the dam, or to avoid other serious hazards. Such actions shall be immediately reported by the fastest means of communication available. Actions shall be confirmed in writing the same day to the Corps of Engineers and shall include justification for the action. Continuation of the deviation will require the express approval of the Chief of Engineers, or his duly authorized representative.

(viii) Advance approval of the Chief of Engineers, or his duly authorized representative, is required prior to any deviation from the plan of regulation prescribed or approved by the Corps of Engineers in
the interest of flood control and/or navigation, except in emergency situations provided for in paragraph (d) (9) (vii) of this section. When conditions appear to warrant a prolonged deviation from the approved plan, the project owner and the Corps of Engineers will jointly investigate and evaluate the proposed deviation to insure that the overall integrity of the plan would not be unduly compromised. Approval of prolonged deviations will not be granted unless such investigations and evaluations have been conducted to the extent deemed necessary by the Chief of Engineers, or his designated representatives, to fully substantiate the deviation.

(10) Revisions. The water control plan and all associated documents will be revised by the Corps of Engineers as necessary, to reflect changed conditions that come to bear upon flood control and navigation, e.g., reallocation of reservoir storage space due to sedimentation or transfer of storage space to a neighboring project. Revision of the water control plan, water control agreement, water control diagram, or release schedule requires approval of the Chief of Engineers or his duly authorized representative. Each such revision shall be effective upon the date specified in the approval. The original (signed document) water control agreement shall be kept on file in the respective Office the Division Engineer, Corps of Engineers, Department of the Army, located at division offices throughout the continental USA. Copies of these agreements may be obtained from the office of the project owner, or from the office of the appropriate Division Engineer, Corps of Engineers.

(11) Federal Register. The following information for each project subject to section 7 of the 1944 Flood Control Act and other applicable congressional acts shall be published in the Federal Register prior to the time the projects becomes operational and prior to any significant impoundment before project completion or * * * at such time as the responsibility for physical operation and maintenance of the Corps of Engineers owned projects is transferred to another entity:
(i) Reservoir, dam, and lake names,
(ii) Stream, county, and State corresponding to the damsite location,
(iii) The maximum current storage space in acre-feet to be reserved exclusively for flood control and/or navigation purposes, or any multiple-use space (intermingled) when flood control or navigation is one of the purposes, with corresponding elevations in feet above mean sea level, and area in acres, at the upper and lower limits of said space,
(iv) The name of the project owner, and
(v) Congressional legislation authorizing the project for Federal participation.

(e) List of projects. The following tables, "Pertinent Project Data--Section 208.11 Regulation," show the pertinent data for projects which are subject to this regulation.


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<th>Project name</th>
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[[Page 110]]

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1. Cr--Creek; CS--Control Structure; Div--Diversion; DS--Drainage Structure; FG--Flood Control; Res--Reservoir
2. F--Flood Control; N--Navigation; P--Corps Hydropower; E--Non Corps Hydropower; Augmentation or Pollution Abatement; R--Recreation; Q--Water Quality or Silt Cont

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3. FCA--Flood Control Act; FERC--Federal Energy Regulatory Comm; HD--House Document
4. Appl Pwr--Appalachian Power; Chln PUD--Chelan Cnty PUD 1; CLPC--CT Light & Power Dist; GRD--Grand River Dam Auth; Grnt PUD--Grant Cnty PUD 2; Hnbl--city of Hannibal Power & Light; Ptmc Comm--Upper Potomac R Comm; Rclm B--Reclamation Board; Rkfd--of Wichita Falls and Wichita Cnty Water Improvement District No. 2; WMEC--Western


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FIELD WORKING AGREEMENT

BETWEEN

DEPARTMENT OF THE INTERIOR, BUREAU OF RECLAMATION

AND

DEPARTMENT OF THE ARMY, CORPS OF ENGINEERS

FOR

FLOOD CONTROL OPERATION

OF

HOOVER DAM AND LAKE MEAD, COLORADO RIVER, NEVADA - ARIZONA

This field working agreement, made and entered into this 8th day of February 1984, between the Lower Colorado Region, Bureau of Reclamation and the South Pacific Division, Corps of Engineers,

WITNESSETH THAT:

WHEREAS, Hoover Dam and Lake Mead, Colorado River, Clark County, Nevada and Mohave County, Arizona, was authorized as part of the Boulder Canyon Project Act (Public Law 70-642). The Boulder Canyon Project Act states that Boulder Dam (Public Law 43 changed the name of the structure from Boulder Dam to Hoover Dam) and the reservoir that it creates shall be used: first, for river regulation, improvement of navigation, and flood control; second, for irrigation and domestic uses; and third, for power.

WHEREAS, the Department of the Interior, acting through the Bureau of Reclamation, represented by the appropriate Regional Director, hereinafter referred to as the Regional Director, has constructed Hoover Dam and
Reservoir, and is responsible for the safety of the structure and for normal operations of the Lower Colorado River, of which said dam and reservoir are a part.

WHEREAS, the Department of the Army, acting through the Corps of Engineers, represented by its appropriate District and Division Engineers, is responsible for the flood control operation of Hoover Dam and Lake Mead in accordance with Section 7 of the 1944 Flood Control Act (Section 7, Public Law 78-534, 58 Stat. 890, 33 U.S.C. 709), which directs the Army to prescribe regulations for the use of storage allocated for flood control or navigation at all reservoirs constructed wholly or in part with Federal funds, and as promulgated in the Code of Federal Regulations, Title 33, Part 208.11, 13 October 1978.

WHEREAS, there is a need for a working agreement to insure a clear understanding of flood control regulations and information exchange required for the operation of Hoover Dam and Lake Mead.

NOW, THEREFORE, it is mutually understood and agreed by and between the parties hereto that this field working agreement shall consummate the provisions of the 1944 Flood Control Act for Hoover Dam and Lake Mead. In addition to the responsibilities of the project owner and the Corps of Engineers spelled out in paragraph 208.11, 33 CFR, it is agreed that Hoover Dam and Lake Mead will be operated in the interest of flood control in accordance with the following water control plan.
(a) In order to provide storage space for control of floods, releases from Lake Mead shall be scheduled so that available storage space for flood control will not be less than that indicated in the following table for the dates shown. Flood control storage space shall be the available storage space below elevation 1,229 feet.

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<td>1 September</td>
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<td>1 October</td>
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<td>1 November</td>
<td>3,810,000</td>
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<td>1 December</td>
<td>4,580,000</td>
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<tr>
<td>1 January</td>
<td>5,350,000</td>
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Pertinent information on permissible changes in available flood control storage space in Lake Mead is given in subparagraphs (1), (2), and (3) of this paragraph.

(1) The available flood control storage space in Lake Mead during the period 1 August to 1 January may be reduced to a minimum of 1,500,000 acre-feet, provided the additional space prescribed under paragraph (a) above is available in active storage space in upstream reservoirs. The maximum storage space in upstream reservoirs that can be credited to the 1 September, 1 October, 1 November, 1 December, or 1 January storage space requirement in Lake Mead is given in the following table:
**Reservoir** | **Creditable storage space (Acre-feet)**
--- | ---
Lake Powell | 3,850,000
Navajo | 1,035,900
Blue Mesa | 749,500
Flaming Gorge plus Fontenelle | 1,507,200

(2) Space building releases from Lake Mead during the period 1 August to 1 January shall not exceed 28,000 cubic feet per second. Space building releases are herein defined as releases for the purpose of attaining the available flood control storage space given in paragraph (a) above.

(3) If, however, available flood control storage space diminishes at any time to less than 1,500,000 acre-feet then the minimum flood control releases are described in paragraph (b) below.

(b) At any time during the year, if available storage space in Lake Mead should become less than 1,500,000 acre-feet, then minimum releases from Lake Mead for flood control shall be determined daily from table 1 (Minimum Flood Control releases from Hoover Dam throughout the year) using available flood control storage space in Lake Mead. Pertinent information on permissible changes in the releases as indicated in table 1 is given in subparagraphs (1), (2), and (3) of this paragraph.
(1) During 1 August to 1 January minimum releases from Lake Mead as given in table 1, if 40,000 cubic feet per second or less, shall not be reduced when once initiated until the storage space prescribed in paragraph (a) above becomes available. During the remainder of the year, releases as given in table 1 if 40,000 cubic feet per second or less are maintained until 1,500,000 acre-feet of storage is available at Lake Mead.

(2) Minimum releases from Lake Mead as given in table 1, if greater than 40,000 cubic feet per second, shall not be reduced, when once initiated, until Lake Mead water surface has receded to elevation 1,221.4 (top of spillway gates raised position). During 1 August to 1 January, releases may then be gradually reduced to 40,000 cubic feet per second and shall be maintained at not less than that rate until the storage space prescribed in paragraph (a) above becomes available. During the remainder of the year releases may also be reduced to 40,000 cubic feet per second upon reaching elevation 1,221.4 in Lake Mead, and shall be maintained at not less than that rate until 1,500,000 acre-feet of storage space is available at Lake Mead.

(3) The releases required in table 1 are minimum releases. Based on forecasted inflow, releases when the Lake Mead water surface elevation is between 1219.61 foot and 1229.00 may be higher during the early stages of a flood so as to achieve a greater reduction in ultimate peak outflow.

(c) Releases from Lake Mead shall be restricted to quantities that will not cause a flow in excess of 40,000 cubic feet per second at the gaging station, Colorado River below Davis Dam, insofar as possible.
However, with the reservoir water surface at the top of the flood control pool, a discharge of about 65,000 cubic feet per second will be passing over the Hoover Dam spillways with the gates in the raised position.

(d) For the period 1 January through 31 July, minimum releases from Lake Mead to attain the 1 August flood control space prescribed in paragraph (a) above shall be determined by use of the Flood Control Algorithm described in Exhibit 1 and Water Loss Equations for Lakes Mead and Powell described in Exhibit 2. Pertinent information on inflow forecasts and on permissible changes in the prescribed releases is given in subparagraphs (1), (2), (3), (4), (5), and (6) of this paragraph.

(1) All inflow forecasts used in carrying out the provisions of these regulations shall be prepared by the Colorado River Forecasting Service located in the National Weather Service River Forecast Center in Salt Lake City, Utah and shall be for the flow of the Colorado River into Lake Mead including the runoff contribution from the tributary drainage area between Lake Powell and Lake Mead.

(2) Lake Mead inflow forecasts as provided by the Colorado River Forecast Service shall be determined from depleted flow. Depletion of natural (virgin) flow shall include transbasin diversions, net water use (diversion minus return flow), and evaporation from reservoirs upstream of Lake Powell. Adjustments to the forecast provided by the Colorado River Forecast Service shall be made for effective storage space in upstream reservoirs as specified in subparagraph (3) of this paragraph.
maximum forecast for any specified runoff period is defined as the estimated inflow volume (acre-feet) that, on the average, will not be exceeded 19 times out of 20.

(3) Effective storage space in Navajo, Blue Mesa, and Flaming Gorge plus Fontenelle reservoirs is the lesser of the actual space available, or the usable space available. The usable space is the difference between the mean forecasted inflow volume (acre-feet) for any specified runoff period and projected mean reservoir releases. In computing effective storage space for Flaming Gorge plus Fontenelle, the actual space is the sum of the actual available space in both reservoirs; while mean forecasted inflow volume and projected mean reservoir release will be the values at Flaming Gorge reservoir. Effective storage space in a reservoir(s) may be a negative value if projected mean reservoir releases exceed the mean forecasted inflow volume.

(4) When minimum releases for the months of January through July as determined by the Flood Control Algorithm are less than 28,000 cubic feet per second, it will be permissible to release less than the indicated amounts for a part of a month, provided the average releases for the entire month will equal the release given by the Algorithm, without flows exceeding 28,000 cubic feet per second at the gaging station, Colorado River below Davis Dam.

(5) The Flood Control Algorithm described in Exhibit 1 accounts for storage space in Lakes Powell and Mead. Whenever sufficient runoff occurs, Lake Powell is expected to fill to capacity (water surface
elevation 3700.0 feet) and Lake Mead is expected to fill to capacity (water surface elevation 1219.61), and remain full until 1 August so as to preclude any increase in the flood control releases specified by the Flood Control Algorithm above 28,000 cubic feet per second at the gaging station, Colorado River below Davis Dam.

(6) The objective of the Flood Control Algorithm is to specify releases such that Lake Mead will be no higher than water surface elevation 1219.61 feet (1,500,000 acre-feet of available storage space below elevation 1229.0 feet) on 1 August. Subsequent revisions to the minimum releases specified by the Flood Control Algorithm may be made during July if justified by a forecast of the remaining runoff and comparison with empty reservoir space available.

(e) During the period 1 January through 31 July the larger release specified by the Flood Control Algorithm versus table 1 shall be the required minimum release.

(f) At anytime of the year, Hoover Dam releases shall not result in a flow rate greater than 28,000 cubic feet per second at the gaging station, Colorado River below Davis Dam unless required or authorized by these regulations.

(g) Nothing in this agreement shall be construed to require dangerously rapid changes in magnitudes of releases. Releases will be made in a manner consistent with requirements for protecting the dam, reservoir and appurtenances from major damages.
(h) Hoover Dam is but one of three major flood control reservoirs in the Lower Colorado River Basin. The Corps of Engineers operates Alamo Dam on the Bill Williams River and Painted Rock Dam on the Gila River. In that flows on these tributary streams contribute to the mainstem Colorado River, coordinated operation of all three reservoirs is essential to achieving flood control objectives. Hence temporary deviations from the Hoover Dam releases prescribed in this regulation may be necessary after consideration of the available storage, projected inflows, and required releases from these tributary reservoirs.

(i) The Bureau of Reclamation shall procure such current basic hydrologic data, and make such current calculations of permissible releases from Lake Mead as are required to accomplish the flood control objectives prescribed above.

(j) The Bureau of Reclamation shall keep the Los Angeles District Engineer, Corps of Engineers, Department of the Army, in charge of the locality, currently advised of reservoir releases, reservoir storage, and such other operating data as the District Engineer may request, and also of those basic operating criteria that affect the schedule of operation.

(k) The flood control regulations are subject to temporary modification by the Los Angeles District Engineer, Corps of Engineers, if found necessary in time of emergency. Requests for and action on such modifications may be made by the fastest means of communications available. The action taken shall be confirmed in writing the same day to the office of the Regional Director and shall include justification for the action.
(1) The Regional Director may temporarily deviate from the flood control regulations in the event an immediate short-term departure is deemed necessary for emergency reasons to protect the safety of Hoover Dam and Lake Mead, or downstream dams, or the levee systems along the lower Colorado River. Such actions will be immediately reported by the fastest means of communication available. Actions shall be confirmed in writing the same day to the Los Angeles District Engineer, Corps of Engineers, and shall include justification for the action.

(a) The Bureau of Reclamation shall be responsible for providing adequate warnings to downstream interests when changes in release of stored floodwaters are made.

(n) Revisions to the flood control operation for Hoover Dam and Lake Mead may be developed as necessary by the parties of this agreement. Each such revision shall be effective on the date specified.

IN WITNESS WHEREOF, the parties hereto have caused this memorandum of agreement to be executed as of the day and date first above written.

Corps of Engineers

Brigadier General, USA
Division Engineer
South Pacific Division

Bureau of Reclamation

Regional Director
Lower Colorado Region
### Table 1. Minimum flood control releases from Hoover Dam throughout the year.

<table>
<thead>
<tr>
<th>CRITERIA</th>
<th>RELEASES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water surface elevation between 19.61 and 1221.40 feet (available storage between 1,500,000 and 1,218,000 acre-feet)</td>
<td>Make releases equal to inflow up to 28,000 cubic feet per second</td>
</tr>
<tr>
<td>Water surface elevation between 1221.40 and 1226.90 feet (available storage between 1,218,000 and 340,000 acre-feet)</td>
<td>Make outflow equal to inflow up to 40,000 cubic feet per second</td>
</tr>
<tr>
<td>Water surface elevation between 1226.90 feet to 1229.00 (available storage between 340,000 and 0 acre-feet)</td>
<td>Make outflow equal to inflow up to 65,000 cubic feet per second</td>
</tr>
<tr>
<td>Water surface elevation 1229.00 (top of the flood control pool)</td>
<td>Maintain outflow equal to inflow</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Water surface elevation (feet)</th>
<th>Water in storage (millions of acre-feet)</th>
<th>Available storage (millions of acre-feet)</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>1205.40</td>
<td>23.708</td>
<td>3.669</td>
<td>Permanent spillway crest</td>
</tr>
<tr>
<td>1219.61</td>
<td>25.877</td>
<td>1.500</td>
<td>Minimum required flood control pool</td>
</tr>
<tr>
<td>1221.40</td>
<td>26.159</td>
<td>1.218</td>
<td>Top of spillway gates in raised position</td>
</tr>
<tr>
<td>1226.9</td>
<td>27.037</td>
<td>0.340</td>
<td>Spillway discharge equals 40,000 cubic feet per second with spillway gates in raised position</td>
</tr>
<tr>
<td>1229.00</td>
<td>27.377</td>
<td>0</td>
<td>Top of flood control pool</td>
</tr>
<tr>
<td>1232.00</td>
<td>0</td>
<td>0</td>
<td>Top of dam</td>
</tr>
<tr>
<td>Release Step</td>
<td>Release Rate (cubic feet per second)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------------</td>
<td>--------------------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RRM₁</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RRM₂</td>
<td>19,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RRM₃</td>
<td>28,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RRM₄</td>
<td>35,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RRM₅</td>
<td>40,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RRM₆</td>
<td>73,000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

RCM = the Hoover Dam average release rate (in cubic feet per second) during the current month determined from solution of the volumetric equation given below.

FCR = the Hoover Dam average release rate (in cubic feet per second) required for flood control during the current month.

NRM = the number of remaining days from the present through 31 July excluding the current month.

BSM = the Lake Mead water loss (in million acre-feet) to bank storage during the current month through 31 July.
the Lake Powell net water loss (in million acre-feet) due to evaporation at the lake surface during the current month through 31 July.

BSP =
the Lake Powell net water loss (in million acre-feet) due bank storage during the current month through 31 July.

EVP =
the Lake Powell net water loss (in million acre-feet) due to evaporation and precipitation during the current month through 31 July.

SNC =
The Lake Mead net water withdrawal (in million acre-feet) due to consumptive use by the Southern Nevada Water Project during the current month through 31 July.

Detailed procedure and equations used to define the terms BSM, EVM, BSP and EVP are presented in Exhibit 2.

The volumetric equation applied to determine RCM is as follows:

\[ FI = SSM + SSP - 1.5 + 1.9835 \times 10^{-6}((RMA \times NCM) + (RMAH \times NRM)) + BSM + EVM + BSP + EVP + SNC \]
Solution of equality of the volumetric equation is iterative using progressively increasing step values of $RRM_1$ through $RRM_6$. $RRM_N$ must be the smallest step value satisfying the requirement that $RCM$ must be equal to or less than $RRM_N$.

The required Hoover Dam flood control release $FCR$ during the current month is determined according to either condition a or b as follows:

(a) if $RCM$ is greater than or equal to $RRM_{N-1}$ then, $FCR = RCM$

(b) if $RCM$ is less than $RRM_{N-1}$ then, $FCR = RRM_{N-1}$
EXHIBIT 2

WATER LOSS EQUATIONS FOR
LAKES MEAD AND POWELL
July 1982

LAKE MEAD

BSM = 0.065 (SSM - 1.5)

EVM = (NEM) (AAM x 10^{-6})

where:

BSM = the Lake Mead water loss (in million acre-feet) to bank storage during the current month through 31 July.

SSM = current storage space (in million acre-feet) in Lake Mead below elevation 1229.0 feet.

EVM = the Lake Mead water loss (in million acre-feet) due to evaporation at the lake surface during the current month through 31 July.

AAM = the average reservoir surface area (in acres) on Lake Mead from the current month through 31 July.
$\bar{E}_M$ is the average evaporation depth (in feet) for Lake Mead from the current month through 31 July as follows:

<table>
<thead>
<tr>
<th>Month</th>
<th>Evaporation Rate (feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>January</td>
<td>0.36</td>
</tr>
<tr>
<td>February</td>
<td>0.33</td>
</tr>
<tr>
<td>March</td>
<td>0.37</td>
</tr>
<tr>
<td>April</td>
<td>0.46</td>
</tr>
<tr>
<td>May</td>
<td>0.53</td>
</tr>
<tr>
<td>June</td>
<td>0.64</td>
</tr>
<tr>
<td>July</td>
<td>0.80</td>
</tr>
</tbody>
</table>

**LAKE POWELL**

$BSP = 0.15 \ (SSP)$

$BSP$ is the Lake Powell water loss (in million acre-feet) to bank storage during the current month through 31 July.

$SSP$ is current storage space (in million acre-feet) in Lake Powell below elevation 3700.0 feet.

$EVP = (C_1E^4 + C_2E^3 + C_3E^2 + C_4E + C_5) \ (SM)$
where:

\[ \text{EVP} = \text{the Lake Powell net water loss (in million acre-feet) due to evaporation and precipitation during the current month through 31 July.} \]

\[ E = \text{the average water surface elevation of Lake Powell (in feet above mean sea level) from the current month through 31 July.} \]

\[ SM = \text{a coefficient for the current month through 31 July as follows:} \]

<table>
<thead>
<tr>
<th>Period</th>
<th>Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>January - July</td>
<td>0.536</td>
</tr>
<tr>
<td>February - July</td>
<td>0.486</td>
</tr>
<tr>
<td>March - July</td>
<td>0.439</td>
</tr>
<tr>
<td>April - July</td>
<td>0.380</td>
</tr>
<tr>
<td>May - July</td>
<td>0.313</td>
</tr>
<tr>
<td>June - July</td>
<td>0.222</td>
</tr>
<tr>
<td>July</td>
<td>0.118</td>
</tr>
</tbody>
</table>

Constant terms are as follows:

\[ C_1 = -1.06524 \times 10^{-12} \]
\[ C_2 = 1.68872 \times 10^{-8} \]
\[ C_3 = -9.51439 \times 10^{-5} \]
\[ C_4 = 0.229605 \]
\[ C_5 = -2.0211176 \times 10^2 \]
The equations in Exhibit 2 may be revised based on prudent engineering analysis without requiring formal revision of the total field working agreement. Revision would be effective following written agreement between the Regional Director and the Division Engineer. All revised versions of Exhibit 2 shall be labeled indicating the date of revision before being effective.
SEVEN-PARTY WATER AGREEMENT
OF AUGUST 18, 1931
AGREEMENT

REQUESTING THE DIVISION OF WATER RESOURCES OF THE STATE OF CALIFORNIA TO APPORTION CALIFORNIA'S SHARE OF THE WATERS OF THE COLORADO RIVER AMONG THE VARIOUS APPLICANTS AND WATER USERS THEREFROM IN THE STATE, CONSENTING TO SUCH APPORTIONMENTS, AND REQUESTING SIMILAR APPORTIONMENTS BY THE SECRETARY OF THE INTERIOR OF THE UNITED STATES

This agreement, made the 18th day of August, 1931, by and between Palo Verde Irrigation District, Imperial Irrigation District, Coachella Valley County Water District, Metropolitan Water District of Southern California, City of Los Angeles, City of San Diego, and County of San Diego.

Witnesseth:

Whereas the Secretary of the Interior did, on November 5, 1930, request the Division of Water Resources of California a recommendation of the proper apportionments of the water of and from the Colorado River to which California may be entitled under the provisions of the Colorado River compact, the Boulder Canyon project act, and other applicable legislation and regulations to the end that the same could be carried into each and all of the contracts between the United States and applicants for water contracts in California as a uniform clause; and

Whereas the parties hereto have fully considered their respective rights and requirements in cooperation with the other water users and applicants and the Division of Water Resources aforesaid:

Now, therefore, the parties hereto do expressly agree to the apportionments and priorities of water of and from the Colorado River for use in California as hereinafter fully set out and respectfully request the Division of Water Resources to, in all respects, recognize said apportionments and priorities in all matters relating to State authority and to recommend the provisions of Article I hereof to the Secretary of the Interior of the United States for insertion in any and all contracts for water made by him pursuant to the terms of the Boulder Canyon project act, and agree that in every water contract which any party may hereafter enter into with the United States, provisions in accordance with Article I shall be included therein if agreeable to the United States.

ARTICLE I

The waters of the Colorado River available for use within the State of California under the Colorado River compact and the Boulder Canyon project act shall be apportioned to the respective interests below named and in amounts and with priorities therein named and set forth, as follows:

Section 1. A first priority to Palo Verde Irrigation District for beneficial use exclusively upon lands in said district as it now exists and upon lands between said district and the Colorado River, aggregating (within and without said district) a gross area of 104,500 acres, such waters as may be required by said lands.
Sec. 2. A second priority to Yuma project of the United States Bureau of Reclamation for beneficial use upon not exceeding a gross area of 25,000 acres of land located in said project in California, such waters as may be required by said lands.

Sec. 3. A third priority (a) to Imperial Irrigation District and other lands under or that will be served from the All-American Canal in Imperial and Coachella Valleys, and (b) to Palo Verde Irrigation District for use exclusively on 16,000 acres in that area known as the "Lower Palo Verde Mesa," adjacent to Palo Verde Irrigation District for beneficial consumptive use, 3,850,000 acre-feet of water per annum less the beneficial consumptive use under the priorities designated in sections 1 and 2 above. The rights designated (a) and (b) in this section are equal in priority. The total beneficial consumptive use under priorities stated in sections 1, 2, and 3 of this article shall not exceed 3,850,000 acre-feet of water per annum.

Sec. 4. A fourth priority to the Metropolitan Water District of Southern California and/or the City of Los Angeles, for beneficial consumptive use, by themselves and/or others, on the coastal plain of Southern California, 550,000 acre-feet of water per annum.

Sec. 5. A fifth priority (a) to the Metropolitan Water District of Southern California and/or the City of Los Angeles, for beneficial consumptive use, by themselves and/or others, on the coastal plain of southern California, 550,000 acre-feet of water per annum and (b) to the City of San Diego and/or County of San Diego, for beneficial consumptive use, 120,000 acre-feet of water per annum. The rights designated (a) and (b) in this section are equal in priority.

Sec. 6. A sixth priority (a) to Imperial Irrigation District and other lands under or that will be served from the All-American Canal in Imperial and Coachella Valleys, and (b) to Palo Verde Irrigation District for use exclusively on 16,000 acres in that area known as the "Lower Palo Verde Mesa," adjacent to Palo Verde Irrigation District, for beneficial consumptive use, 300,000 acre-feet of water per annum. The rights designated (a) and (b) in this section are equal in priority.

Sec. 7. A seventh priority of all remaining water available for use within California, for agricultural use in the Colorado River Basin in California, as said basin is designated on map No. 23000 of the Department of the Interior, Bureau of Reclamation.

Sec. 8. So far as the rights of the allottees named above are concerned, the Metropolitan Water District of Southern California and/or the City of Los Angeles shall have the exclusive right to withdraw and divert into its aqueduct any water in Boulder Canyon Reservoir accumulated to the individual credit of said district and/or said city (not exceeding at any one time 4,750,000 acre-feet in the aggregate) by reason of reduced diversions by said district and/or said city; provided, that accumulations shall be subject to such conditions as to accumulation, retention, release, and withdrawal as the Secretary of the Interior may from time to time prescribe in his discretion, and his determination thereof shall be final; provided further, that the United States of America reserves the right to make similar arrangements with users in other States without distinction in priority, and to determine the correlative relations between said district and/or said city and such users resulting therefrom.

Sec. 9. In addition, so far as the rights of the allottees named above are concerned, the City of San Diego and/or County of San
Diego shall have the exclusive right to withdraw and divert into an aqueduct any water in Boulder Canyon Reservoir accumulated to the individual credit of said city and/or said county (not exceeding at any one time 250,000 acre-feet in the aggregate) by reason of reduced diversions by said city and/or said county; provided, that accumulations shall be subject to such conditions as to accumulations, retention, release, and withdrawal as the Secretary of the Interior may from time to time prescribe in his discretion, and his determination thereof shall be final; provided further, that the United States of America reserves the right to make similar arrangements with users in other States without distinction in priority, and to determine the correlative relations between the said city and/or said county and such users resulting therefrom.

SEC. 10. In no event shall the amounts allotted in this agreement to the Metropolitan Water District of Southern California and/or the City of Los Angeles be increased on account of inclusion of a supply for both said district and said city, and either or both may use said apportionments as may be agreed by and between said district and said city.

SEC. 11. In no event shall the amounts allotted in this agreement to the City of San Diego and/or to the County of San Diego be increased on account of inclusion of a supply for both said city and said county, and either or both may use said apportionments as may be agreed by and between said city and said county.

SEC. 12. The priorities hereinbefore set forth shall be in no wise affected by the relative dates of water contracts executed by the Secretary of the Interior with the various parties.

ARTICLE II

That each and every party hereto who has heretofore filed an application or applications for a permit or permits to appropriate water from the Colorado River, requests the Division of Water Resources to amend such application or applications as far as possible to bring it or them into conformity with the provisions of this agreement; and each and every party hereto who has heretofore filed a protest or protests against any such application or applications of other parties hereto, does hereby request withdrawal of such protest or protests against such application or applications when so amended.

ARTICLE III

That each and all of the parties to this agreement respectfully request that the contract for delivery of water between the United States of America and the Metropolitan Water District of Southern California under date of April 24, 1930, be amended in conformity with Article I hereof.

In witness whereof, the parties hereto have caused this agreement to be executed by their respective officers thereunto duly authorized, the day and year first above written. Executed in seven originals.
APPENDIX 40

Recommended for execution:

Palo Verde Irrigation District,
By Ed. J. Williams,
Arvin B. Shaw, Jr.

Imperial Irrigation District,
By Mark Rose,
Chas. L. Childers,
M. J. Dowd.

Coachella Valley County Water District,
By Thos. C. Yager,
Robbins Russell.

Metropolitan Water District of Southern California,
By W. B. Matthews,
C. C. Elder.

City of Los Angeles,
By W. W. Hurlbut,
C. A. Davis.

City of San Diego,
By C. L. Byers,
H. N. Savage.

County of San Diego,
By H. N. Savage,
C. L. Byers.

[The agreement was thereafter ratified by each of the seven parties.]
DEPARTMENT OF PUBLIC WORKS
DIVISION OF WATER RESOURCES

Application No. Filed January 11, 1933 at 11:15 AM

AMENDED APPLICATION RECEIVED 7/15/35
APPLICATION TO APPROPRIATE UNAPPROPRIATED WATER

This application involves in no way the right to construct a dam

1. Imperial Irrigation District

   Home of applicant
   County of Imperial
   State of California

   Do hereby make application for a permit to appropriate the following described unappropriated waters of the State of California, SUBJECT TO EXISTING RIGHTS:

   Source, Amount, Use and Location of Diversion Works

   1. The source of the proposed appropriation is "Colorado River (See Supplement)"

   located in Imperial County, tributary to Gulf of California

   2. The amount of water which applicant desires to appropriate under this application is as follows:

      (a) For diversion to be directly applied to beneficial use without storage; 10,000 cubic feet per second, to be diverted from January 1st to December 31st of each season. Total diversions in any one year shall not exceed 3,800,000 acre-feet (See Supplement)

      (b) For diversion to be stored temporarily and later applied to beneficial use; 1 acre-foot equals 325,851 gallons

   3. The use to which the water is to be applied is irrigation and domestic purposes.

   4. The point of diversion is to be located S. 80° 50' E., 2495' from N.W. corner of

   Description of Diversion Works

   NOTE.—All applications not be approved for an amount greater in excess of the estimated capacity of the diversion works.

   6. Intake or Headworks (fill only those blanks which apply)

      (a) Diversion will be made by pumping; Capacity of plant

      (b) Diversion will be by gravity, the diverting dam being 22 feet in height (stream bed to level of overflow); 1770 feet long on top; and constructed of rockfill covered by concrete slab.

      (c) The storage dam will be feet in height (stream bed to overflow level); feet long on top; have a freeboard of feet, and be constructed of concrete, earth, brick, etc.

   7. Storage Reservoir

      The storage reservoir will flood lands in

      It will have a surface area of acres, and a capacity of acre-feet.

   JUL 21 1935
Completion Schedule

Construction work will be completed within 10 years after approval of this application.

The water will be completely applied to the proposed use within 50 years after approval of this application.

Description of Proposed Use

11. Place of Use. (See supplement)

State 10-acre subdivisions of the public land survey were proposed. In the case of irrigation use, state the number of acres to be irrigated in each 10-acre tract, if same permits. If space does not permit listing all 10-acre tracts, describe area in general way and show detail upon map. These blanks must be filled in when approved use is proposed.

12. Domestic Use.

If incidental to one of the uses described in Paragraphs 12, 13, 14, 15, 16, 17 or 18 domestic use may be included in the same application with one approval, no separate application is required.

Domestic use is proposed as follows: All domestic water used will be supplied from the canal.

The amount for which application is made was determined by

13. Irrigation Use. (See marginal note.) The area to be irrigated is 992.564 acres.

The segregation of acreage as to crops is as follows: Rice, 992.564 acres; alfalfa, 992.564 acres; orchard

acre; general crops, 992.564 acres.

Note—Care should be taken that the various statements as to acreage are consistent with each other, with the statement in Paragraph 11, and with the map.

The irrigation season will begin about January 1st and end about December 31st.

The land to be irrigated has another water right or source of water supply other than that herein applied for. The nature and amount of the additional supply referred to is (See supplement).

14 Power Use. (See marginal note.) The total fall to be utilized is

The maximum amount of water to be used through the peastock is 322.15 cubic feet per second.

The maximum theoretical horsepower capable of being generated by the works is

horsepower. The use to which the power is to be applied is

The actual of the works by means of which power to be developed is

The water will not be returned to

Sec., Tp., R., M., 500312
15. Municipal Use. (See marginal note.) This application is made for the purpose of serving

Name of claim

having a present population of

The estimated average daily consumption during the month of maximum use at the end of each five year period until the full amount applied for is put to beneficial use is as follows:

16. Mining Use. (See marginal note.) The name of the mining property to be served is:

None of claim

and the nature of the mine is:

Gold, silver, lead, quartz, etc.

The method of utilizing the water is:

It is estimated that the ultimate water requirement for this project will be:

Cubic feet per second, gallons per minute State lands of ownership

The water will not be polluted by chemicals or otherwise:

Explain nature of pollution, if any:

and it will not be returned to:

None return State and town subdivision

Sec., Tp., R., M.

17. Industrial Use. (See marginal note.) The nature of the use proposed is:

Describe nature and method of use

The amount for which application is made was determined by:

Describe basis of estimate of quantity needed

18. Recreational Use. (See marginal note.) Water will be used for:

Describe nature and method of use

The amount for which application is made was determined by:

Describe basis of estimate of quantity needed

19. Are the maps as required by the Rules and Regulations filed with Application? Yes If not, state specifically the time required for filing same.

20. Does the applicant own the land at the proposed point of diversion? Yes If not, state what steps have been taken to secure right of access thereon. (See supplement)

21. What is the name of the post office most used by those living near the proposed point of diversion? Tuscon, Arizona

22. What are the names and addresses of claimants of water from the source of supply below the proposed point of diversion?

IMPERIAL IRRIGATION DISTRICT

[Signature]

PRESIDENT

[Signature]

SECRETARY Signature of Applicant
SUPPLEMENT TO APPLICATION 7432

Paragraph 1. This application is filed by Imperial Irrigation District to supplement an existing right to take water from Colorado River and without waiving any of its existing rights thereto or any claims to such rights.

Subject to the foregoing and without waiving any such right, the water covered by this application is any unappropriated water in the Colorado River and in particular any flood or storm waters and any water that may be released from the Boulder Canyon reservoir to be created by the Boulder Dam, or other storage, provided that the water to be taken pursuant to this application shall not exceed 3,000,000 acre feet in any calendar year and all rights under this application are subject to that certain agreement dated August 18, 1934, by and between Palo Verde Irrigation District, Imperial Irrigation District, Colorado Valley Water District; City of Los Angeles, the Metropolitan Water District of Southern California, City of San Diego, and County of San Diego, and subject also to the certain agreement dated February 14, 1934, by and between Imperial Irrigation District and Colorado Valley Water Division, copies of which said agreements are hereby heretofore been filed with the Division of Water Resources and to which reference is hereby made.

Paragraph 11.  

<table>
<thead>
<tr>
<th>Mesa/Name</th>
<th>Acres</th>
</tr>
</thead>
<tbody>
<tr>
<td>East Mesa</td>
<td>219,010</td>
</tr>
<tr>
<td>East Mesa No. 1</td>
<td>460</td>
</tr>
<tr>
<td>East Mesa No. 2</td>
<td>360</td>
</tr>
<tr>
<td>East Mesa</td>
<td>123,225</td>
</tr>
<tr>
<td>Superstition Mesa</td>
<td>9,930</td>
</tr>
<tr>
<td>Kane Springs Mesa</td>
<td>6,865</td>
</tr>
<tr>
<td>Borrego Mesa</td>
<td>1,668</td>
</tr>
<tr>
<td>Pilot Knob Mesa</td>
<td>20,865</td>
</tr>
<tr>
<td>Imperial Irrigation District</td>
<td>673,665</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>929,846 Acres</strong></td>
</tr>
</tbody>
</table>

Being within Townships 9 to 17 South, Ranges 9 to 21 East, S.B. 3.4M., as shown on map marked Exhibit "a" filed with the Division of Water Resources, April 19, 1935.

Paragraph 13. Imperial Irrigation District claims certain rights in the Colorado River and has been diverting and distributing water therefrom for many years, and now claims the right to take 10,000 cubic feet per second of water from any water in the river not otherwise appropriated. This application is intended to secure to the District the right to take any water in the river not otherwise appropriated including flood and storm waters and releases from the Boulder Canyon reservoir and other storage, up to the limits herein specified.

Paragraph 20. The intake of the present system is owned by the District, which also has a contract with the United States for the construction of the All-American Canal.
This is to certify that the application of which the foregoing is a true and correct copy has been considered and is hereby approved subject to vested rights, provisions of the Water Code of the State of California and the following limitations and conditions:

1. The amount of water appropriated shall be limited to the amount which can be beneficially used and shall not exceed 10,000 cubic feet per second to be diverted from January 1st to December 31st of each season.

2. The Colorado River flows along a part of the eastern boundary of the State of California and is the subject of an interstate compact to which the State of California is a party. Under authority of an Act of Congress the United States has contracted to deliver to Imperial Irrigation District, a public agency of the State of California, at the District’s point of diversion known as Imperial Dam, water in the quantity as in said contract and hereinafter set out from storage constructed by the United States at Hoover Dam on said River outside of the State of California. Said facts are found to be such as bring the case within the terms of Section 1005 of the Water Code of California.

3. This permit supplements and is without prejudice to rights held or claimed by applicant under said contract with the United States, or under appropriation, user, or otherwise. So much water is to be diverted under this permit as is agreed in said contract to be delivered and as may be necessary to supply the District a total quantity, including all other waters diverted for use of the District from the Colorado River as follows:

"The waters of the Colorado River available for use within the State of California under the Colorado River compact and the Boulder Canyon Project Act shall be apportioned to the respective interests below named and in amounts and with priorities therein named and set forth, as follows:

SECTION 1. A first priority to Palo Verde Irrigation District for beneficial use exclusively upon lands in said district as it now exists and upon lands between said district and the Colorado River, aggregating (within and without said district) a gross area of 104,500 acres, such water as may be required by said lands.

SEC. 2. A second priority to Yuma Project of the United States Bureau of Reclamation for beneficial use upon not exceeding a gross area of 25,000 acres of land located in said Project in California, such waters as may be required by said lands."
SEC. 3. A third priority (a) to Imperial Irrigation District and other lands under or that will be served from the All-American Canal in Imperial and Coachella Valleys, and (b) to Palo Verde Irrigation District for use exclusively on 16,000 acres in that area known as the 'Lower Palo Verde Mesa', adjacent to Palo Verde Irrigation District, for beneficial consumptive use, 3,850,000 acre-feet of water per annum less the beneficial consumptive use under the priorities designated in Sections 1 and 2 above. The rights designated (a) and (b) in this Section are equal in priority. The total beneficial consumptive use under priorities stated in Sections 1, 2, and 3 of this article shall not exceed 3,850,000 acre-feet of water per annum.

SEC. 4. A fourth priority to the Metropolitan Water District of Southern California and/or the City of Los Angeles, for beneficial consumptive use, by themselves and/or others, on the Coastal Plain of Southern California, 550,000 acre-feet of water per annum.

SEC. 5. A fifth priority (a) to the Metropolitan Water District of Southern California and/or the City of Los Angeles, for beneficial consumptive use, by themselves and/or others, on the Coastal Plain of Southern California, 550,000 acre-feet of water per annum, and (b) to the City of San Diego and/or County of San Diego, for beneficial consumptive use, 112,000 acre-feet of water per annum. The rights designated (a) and (b) in this section are equal in priority.

SEC. 6. A sixth priority (a) to Imperial Irrigation District and other lands under or that will be served from the All-American Canal in Imperial and Coachella Valleys, and (b) to Palo Verde Irrigation District for use exclusively on 16,000 acres in that area known as the 'Lower Palo Verde Mesa', adjacent to Palo Verde Irrigation District, for beneficial consumptive use, 300,000 acre-feet of water per annum.

SEC. 7. A seventh priority of all remaining water available for use within California, for agricultural use in the Colorado River Basin in California, as said basin is designated on Map No. 23000 of the Department of the Interior, Bureau of Reclamation.

This permit is issued and made subject to that certain agreement dated February 14, 1934, by and between Imperial Irrigation District and Coachella Valley County Water District.

As required by an Act of Congress of the United States, California has agreed to limit its consumptive use of the water of the Colorado River (Stats. 1929, page 38) and this permit is issued subject to the conditions of said limitation act.
APPLICANT TO APPROPRIATE UNAPPROPRIATED WATER

This application involves in no way the right to construct a dam

1. Name of applicant

2. Source, Amount, Use and Location of Diversion Works

(a) Water from which diversion is to be made, location, etc.

(b) Amount of water to be applied

(c) Purpose of application

3. Description of Diversion Works

4. Point of diversion

5. Storage Reservoir

NOTE: An application cannot be approved for an amount greater than the estimated capacity of the diversion works.
Completion Schedule

10. Construction work will be completed within 5 years after approval of this application.

The water will be completely applied to the proposed use within 20 years after approval of this application.

Description of Proposed Use

11. Place of Use. (See marginal note.)

12. Domestic Use. (See marginal note.)

13. Irrigation Use. (See marginal note.)

14. Power Use. (See marginal note.)
10. Municipal Use. (See marginal note.) This application is made for the purpose of securing
having a present population of

The estimated average daily consumption during the month of maximum use at the end of each five year period until the full amount applied for is put to beneficial use is as follows:

16. Mining Use. (See marginal note.) The name of the mining property to be served is
and the nature of the mines is

Gold, silver, lead, copper, etc.

The method of utilizing the water is

It is estimated that the ultimate water requirement for this project will be

The water will not be polluted by chemicals or otherwise

and it will not be returned to

The amount for which application is made was determined by

17. Industrial Use. (See marginal note.) The nature of the use proposed is

Describe nature and method of use

The amount for which application is made was determined by

18. Recreational Use. (See marginal note.) Water will be used for

Describe nature and method of use

The amount for which application is made was determined by

19. Are the maps as required by the Rules and Regulations filed with Application? Yes No. If not, state specifically the time required for filing same.

20. Does the applicant own the land at the proposed point of diversion? No. If not, state what steps have been taken to secure right of access thereto.

No contract with United States

21. What is the name of the post office most used by those living near the proposed point of diversion?

Andrade, California

22. What are the names and addresses of claimants of water from the source of supply below the proposed point of diversion?

None

________________________
Signature of Applicant
The attached application is made in connection with the use of water in the All-American Canal, and is supplementary to the rights of applicant by appropriation and under its contract with the United States and all such rights are expressly reserved.

It is proposed by applicant and applicant claims the right to divert from the Colorado River at the point indicated in this application and convey through the All-American Canal to the site of the power plant indicated in this application, the quantity of water named and to use all water thus conveyed, to the site of the power plant so indicated, for power purposes. Applicant also claims the right to divert, convey and use such water for other purposes and for power purposes at other power sites and all such rights are expressly reserved.
This is to certify that the application of which the foregoing is a true and correct copy has been considered and is hereby approved subject to vested rights, provisions of the Water Code of the State of California, and the following limitations and conditions; insofar as jurisdiction exists in the State of California, as supplemental to other rights of, and without prejudice to, any existing or vested rights of permittee:

1. The amount of water appropriated shall be limited to 8000 cubic feet per second, or so much thereof as may be flowing at any time in the All-American Canal at the site of the power plant covered by said application, from January 1st to December 31st of each year.

2. The Colorado River flows along a part of the eastern boundary of the State of California and is the subject of an interstate compact, to which the State of California is a party. Under authority of an Act of Congress, the United States has contracted with Imperial Irrigation District, an irrigation district of the State of California, to construct the All-American Canal for said District and to deliver to the District at the District's point of diversion for said Canal, known as Imperial Dam, water for irrigation and domestic purposes in the quantity as in said contract provided and as referred to and set out in permit issued in the matter of Application No. 7482. Under authority of said Act of Congress and as provided in said contract, the United States has granted to the District the right to utilize power possibilities on the All-American Canal; said application covers one of such possibilities which the District proposes to develop. Said facts are found to be such as bring the case within the terms of Section 1005 of the Water Code of California.

3. This permit supplements and is without prejudice to the rights held or claimed by said applicant under said contract with the United States, or under appropriation, user, or otherwise, to the use of water of and from the Colorado River for irrigation, domestic, power, and other purposes; provided, however, that any and all rights acquired under this permit shall be subject to said interstate compact and in particular to the provisions of Article IV(b) thereof which provide that the use of water of the Colorado River system for the generation of electric power shall be subservient to the use and consumption of such water for agricultural and domestic purposes within the United States and shall not interfere with or prevent use for such dominant purposes.

4. In conformity with the provisions of that certain Agreement between Imperial Irrigation District and Coachella Valley County Water District, dated the 16th day of February, 1934, and in conformity with the provisions of Section 20 of said Agreement, this permit is approved to Imperial Irrigation District.

This permit is issued and permittee takes it subject to the following provisions of the Water Code:

Section 1996. A permit 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 1991. Every permit shall include the enumeration of conditions therein which in substance shall include all of the provisions of this article and the statement that any appropriation of water to whom a permit is issued then is subject to the conditions herein set forth.

Section 1992. Every permittee, if he accepts a permit, does so under the conditions precedent that no value whatsoever in excess of the actual amount paid to the State therefor shall at any time be assigned or claimed for any permit 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 service or the price of the service to be rendered by any permittee 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 purpose of sale 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, the rights and property of any permittee, or the possessor of any rights granted, issued, or acquired under the provisions of this division (of the Water Code).

Witness my hand and the seal of the Department of Public Works of the State of California this 6th day of January, 1950.

[Signature]
EDWARD HYATT, State Engineer
DIVISION OF WATER RESOURCES

APPLICATION TO APPROPRIATE UNAPPROPRIATED WATER

This application involves in no way the right to construct a dam

1. Name of applicant


2. State of

California

3. County

Imperial

4. Post office

El Centro

5. The source of the proposed appropriation is

Colorado

6. The amount of water which applicant desires to appropriate under this application is as follows:

(a) For diversion to be directly applied to beneficial use without storage

1,000 cubic feet per second

(b) For diversion to be stored temporarily and later applied to beneficial use

1,000 cubic feet per second

7. The point of diversion is to be located at Imperial Dam to be constructed by the United States in connection with All American Canal, located S. 80° E., 4905 feet from N.W. corner Section 9, being within the

Lot 2

State survey subdivision of U. S. Government survey or projection thereof

8. The main conduit terminates in

Gallons per minute

9. Storage Reservoir

The storage reservoir will flood lands in

It will have a

acres, and a capacity of

acres-feet.
8. Conduit System (describe main conduits only)

(a) Canal, ditch, flume: Width on top (at water line) 110.75 feet; width at bottom 60
feet; depth of water 13.26 feet; length 333,000 feet; grade 0.08 feet per 1,000 feet; materials of construction: Earth, rock and concrete.

(b) Pipe line: Diameter inches; length feet; grade feet per 1,000 feet; total fall from intake to outlet feet; kind.

Note: If a combination of different sizes or kinds of conduits is to be used, attach extra sheets with complete descriptions, also show location of each clearly on map.

9. The estimated capacity of the diversion works proposed is 15,000 cubic feet per second

The estimated cost of the diversion works proposed is $6,100,000

Completion Schedule


Construction work will be completed within 5 years after approval of this application.

The water will be completely applied to the proposed use within 20 years after approval of this application.

Description of Proposed Use

11. Place of Use: Sec. 13, T. 17 S., R. 15 E., S.B.M.

The Imming for which application is made is described by the survey prepared. In the case of irrigation the acre or number of acres to be irrigated in each 40-acre tract, if more permits. If none does not permit listing all 40-acre tracts, describe one in a general way and show detail upon map. These blanks need not be filled in when municipal use is proposed.

Does applicant own the land wherein use of water will be made? No

To be furnished in connection with All American Canal

If applicant does not own land wherein use of water will be made, state what arrangements have been made with owner.

12. Domestic Use.

Domestic use is proposed as follows:

Describe nature of use which may include such water and the irrigation of domestic gardens not exceeding one-half acre and in use connected with place of residence

The amount for which application is made was determined by

Describe kind of substance of quantity needed

13. Irrigation Use. (See marginal note.) The area to be irrigated is

The segregation of acres as to crops is as follows: Rice ; alfalfa ; orchard ; general crops

Note: Care should be taken that the various statements as to acreage are consistent with each other, with the statement in Paragraph 11, and with the map.

The irrigation season will begin and end about

The land to be irrigated has another water right or source of water supply other than that herein applied for. The nature and amount of the additional supply referred to is

14. Power Use. (See marginal note.) The total fall to be utilized is 22.65 feet.

The maximum amount of water to be used through the penstock is 6,000 cubic feet per second.

The maximum theoretical horsepower capable of being generated by the works is 15443.2 horsepower.

The use to which the power is to be applied is for distribution and sale, pumping and incidental uses.

The nature of the works by means of which power is to be developed is a turbine.

The water will be returned to All American Canal in Sec. 13, T. 17 S., R. 15 E., S.B.
15. Municipal Use. (See marginal note.) This application is made for the purpose of serving ______________________________________ having a present population of ______________________________________.

The estimated average daily consumption during the month of maximum use at the end of each five year period until the full amount applied for is put to beneficial use is as follows:

16. Mining Use. (See marginal note.) The name of the mining property to be served is ______________________________________ and the nature of the mines is ______________________________________.

The method of utilizing the water is ______________________________________.

It is estimated that the ultimate water requirement for this project will be 1000 acre-feet per year, gallons per minute, etc., based on estimated future use.

The water will not be polluted by chemicals or otherwise ______________________________________.

and it will not be returned to ______________________________________.

See ___________, Tp._________, R._________, M._________.

17. Industrial Use. (See marginal note.) The nature of the use proposed is ______________________________________.

The amount for which application is made was determined by ______________________________________.

18. Recreational Use. (See marginal note.) Water will be used for ______________________________________.

The amount for which application is made was determined by ______________________________________.

General

19. Are the maps as required by the Rules and Regulations filed with Application? ___________. If not, state specifically the time required for filing same ______________________________________.

20. Does the applicant own the land at the proposed point of diversion? ___________. If not, state what steps have been taken to secure right of access thereunto ___________. contract with the United States ___________.

21. What is the name of the post office most used by those living near the proposed point of diversion? Calexico, California

22. What are the names and addresses of claimants of water from the source of supply below the proposed point of diversion? None

______________________________________
IMPERIAL IRRIGATION DISTRICT

______________________________________
Signature of Applicant

500324
SUPPLEMENTAL STATEMENT

The attached application is made in connection with the use of water in the All-American Canal, and is supplementary to the rights of applicant by appropriation and under its contract with the United States and all such rights are expressly reserved.

It is proposed by applicant and applicant claims the right to divert from the Colorado River at the point indicated in this application and convey through the All-American Canal to the site of the power plant indicated in this application, the quantity of water named and to use all water thus conveyed, to the site of the power plant so indicated, for power purposes. Applicant also claims the right to divert, convey and use such water for other purposes and for power purposes at other power sites and all such rights are expressly reserved.
PERMIT NO. [redacted]

This is to certify that the application of which the foregoing is a true and correct copy has been considered and is hereby approved subject to vested rights, provisions of the Water Code of the State of California, and the following limitations and conditions; insofar as jurisdiction exists in the State of California, as supplemental to other rights of, and without prejudice to, any existing or vested rights of permittees:

1. The amount of water appropriated shall be limited to 6,000 cubic feet per second, or so much thereof as may be flowing at any time in the All-American Canal at the site of the power plant covered by said application, from January 1st to December 31st of each year.

2. The Colorado River flows along a part of the eastern boundary of the State of California and is the subject of an interstate compact, to which the State of California is a party. Under authority of an Act of Congress, the United States has contracted with Imperial Irrigation District, an irrigation district of the State of California, to construct the All-American Canal for said District and to deliver to the District at the District's point of diversion for said Canal, known as Imperial Dam, water for irrigation and domestic purposes in the quantity as in said contract provided and as referred to and set out in permit issued in the matter of Application No. 742. Under authority of said Act of Congress and as provided in said contract, the United States has granted to the District the right to utilize power possibilities on the All-American Canal; said application covers one of such possibilities which the District proposes to develop. Said facts are found to be such as bring the case within the terms of Section 1005 of the Water Code of California.

3. This permit supplements and is without prejudice to the rights held or claimed by said applicant under said contract with the United States, or under appropriation, user, or otherwise, to the use of water of and from the Colorado River for irrigation, domestic, power, and other purposes; provided, however, that any and all rights acquired under this permit shall be subject to said interstate compact and in particular to the provisions of Article IV(b) thereof which provide that the use of water of the Colorado River system for the generation of electric power shall be subservient to the use and consumption of such water for agricultural and domestic purposes within the United States and shall not interfere with or prevent use for such dominant purposes.

4. In conformity with the provisions of that certain Agreement between Imperial Irrigation District and Coachella Valley County Water District, dated the 17th day of February, 1934, and in conformity with the provisions of Section 20 of said Agreement, this permit is approved to Imperial Irrigation District.

This permit is issued and permits takes it subject to the following provisions of the Water Code:

Section 1399. Every permit 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 1391. Every permit shall include the recitation of conditions therein which in substance shall include all of the provisions of this article and the statement that any appropriation of water to whom a permit is issued takes it subject to the conditions therein expressed.

Section 1392. Every permittee, if he accepts a permit, does so under the condition precedent that any value whatsoever in excess of the annual amount paid to the State therefor shall, at any time be assigned to or claimed for any permit granted or issued under the provisions of this division (of the Water Code), or for any water granted or acquired under the provisions of this division (of the Water Code), in respect to the regulations of any competent public authority of the service or the price of the service to be rendered by any permittee 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 or purchase, whether through condemnation proceedings or otherwise, by the State or any city, city and county, municipal water district, irrigation district, basin district, or any political subdivision of the State, of the rights and property of any permittee, or the possessor of any rights granted, under the provisions of this division (of the Water Code).

Witness my hand and the seal of the Department of Public Works of the State of California this 6th day of January 1950

EDWARD HYATT, State Engineer

500326
APPLICATION TO APPROPRIATE UNAPPROPRIATED WATER

This application involves in no way the right to construct a dam.

I. NAME OF APPLICANT

Name of applicant: Imperial Irrigation District

II. LOCATION

State of California, do hereby make application for a permit to appropriate the following described unappropriated waters of the State of California, SUBJECT TO EXISTING RIGHTS:

Source, Amount, Use and Location of Diversion Works

1. The source of the proposed appropriation is Colorado River located in Imperial County, tributary to Gulf of California.

2. The amount of water which applicant desires to appropriate under this application is as follows:

- For diversion to be directly applied to beneficial use without storage: 8,000 cubic feet per second, to be diverted from January 1st to December 31st of each year.

- For diversion to be stored temporarily and later applied to beneficial use: 2,000 acre-feet per annum, to be collected between and December 31st of each season.

3. The use to which the water is to be applied is: generation of electric energy for light, heat, power and other purposes.

4. The point of diversion is to be located at Imperial Dam to be constructed by the United States in connection with All-American Canal, located S. S° 50' E., 2495 ft. from N.W. corner Section 9, being within acres U.S. Government survey plot.

5. The main conduit terminates in NW corner of Sec. 17 S R. 17 E. S.B.M., being within acres U.S. Government survey plot.

Description of Diversion Works

6. Intake or Headworks (fill in only those blanks which apply)

- Diverter will be made by pumping: Capacity of plant ____________ gallons per minute.

- Diverter will be by gravity, the diverting dam being ____________ foot high (stream bed to level of overspill): ____________ feet long on top, and constructed of ____________ materials.

- The storage dam will be ____________ feet in height (stream bed to overflow level): ____________ feet long on top, have a freeboard of ____________ feet, and be constructed of ____________ materials.

7. Storage Reservoir

The storage reservoir will flood lands in.

It will have a capacity of ____________ acre-feet.
8. Conduit System (describe main conduits only)

(a) Canal, ditch, flume: Width on top (at water line) 170.96 feet; width at bottom 114.00 feet; depth of water 14.26 feet; length 272,000 feet; grade 0.081 feet per 1,000 feet; materials of construction Earth, rock and concrete.

(b) Pipe line: Diameter __________ inches; length __________ feet; grade __________ feet per 1,000 feet; total fall from intake to outlet __________ feet; kind __________ earth, rock, timber, etc.

Note—If a combination of different sizes or kinds of conduit is to be used, attach extra sheets with complete description, also show location of each plainly on map.

9. The estimated capacity of the diversion works proposed is 15,000 cubic feet per second.
   The estimated cost of the diversion works proposed is $6,100,000.

Completion Schedule

Started July, 1934

Construction work will be completed within __________ years after approval of this application.

The water will be completely applied to the proposed use within __________ years after approval of this application.

Description of Proposed Use

11. Place of Use, etc. (See Section 3, T. 17 S., R. 17 E., S.B.M.)

Survey of the land which is to be irrigated or otherwise used is for the purpose of determining the amount of water for which application is made.

12. Domestic Use.

If incidental to use of the water as described in Paragraph 11, 14, 16, 17, or 18 domestic use may be included in the grant and any non-agricultural incidental use shall be applied for, if the domestic use is not incidental to same.

Domestic use is proposed as follows:

Describe nature of use which may include stock water and the irrigation of domestic gardens not exceeding

The amount for which application is made was determined by __________.

13. Irrigation Use. (See marginal note.) The area to be irrigated is __________ acres.

The segregation of acreage as to crops is as follows: Rice __________ acres; alfalfa __________ acres; orchard __________ acres; general crops __________ acres.

The irrigation season will begin about __________ and end about __________.

The land to be irrigated has another water right or source of water supply other than that herein applied for. The nature and amount of the additional supply referred to is __________.

14. Power Use. (See marginal note.) The total fall to be utilized is __________ feet.

The maximum amount of water to be used through the penstock is __________ cubic feet per second.

The maximum theoretical horsepower capable of being generated by the works is __________ horsepower.

The use to which the power is to be applied is __________.

The nature of the works by means of which power is to be developed is __________.

The water will be returned to __________.

Survey of the land which is to be irrigated or otherwise used is for the purpose of determining the amount of water for which application is made.

RAPHIS 13, 14, 15, 16, 17 and 18
15. Municipal Use. (See marginal note.) This application is made for the purpose of serving
having a present population of_________. The estimated average daily consumption during the month of maximum use at the end of each five year period until the full amount applied for is put to beneficial use is as follows:

16. Mining Use. (See marginal note.) The name of the mining property to be served is __________ and the nature of the mines is __________. The method of utilizing the water is __________. It is estimated that the ultimate water requirement for this project will be __________. The water will not be polluted by chemicals or otherwise explained source of pollution, if any, and it will not be returned to __________ in __________. The water will not be pollution by chemicals or otherwise explained source of pollution, if any, and it will not be returned to __________ of __________. Sec. __________, Tp. __________, R. __________, M. __________.

17. Industrial Use. (See marginal note.) The nature of the use proposed is __________. Describe nature of use and method of use __________. The amount for which application is made was determined by __________. Describe basis of amount of quantity needed __________.

18. Recreational Use. (See marginal note.) Water will be used for __________. Describe nature and method of use __________. The amount for which application is made was determined by __________. Describe basis of estimate of quantity needed __________.

General

19. Are the maps as required by the Rules and Regulations filed with Application? __________. If not, state specifically the time required for filing same __________.

20. Does the applicant own the land at the proposed point of diversion? __________. If not, state what steps have been taken to secure right of access thereto __________. Contract with the United States __________.

21. What is the name of the post office most used by those living near the proposed point of diversion? __________.

22. What are the names and addresses of claimants of water from the source of supply below the proposed point of diversion? __________.

__________

IMPERIAL IRRIGATION DISTRICT

By __________

Signature of Applicant

500329
SUPPLEMENTAL STATEMENT

The attached application is made in connection with the use of water in the All-American Canal, and is supplementary to the rights of applicant by appropriation and under its contract with the United States and all such rights are expressly reserved.

It is proposed by applicant and applicant claims the right to divert from the Colorado River at the point indicated in this application and convey through the All-American Canal to the site of the power plant indicated in this application, the quantity of water named and to use all water thus conveyed, to the site of the power plant so indicated, for power purposes. Applicant also claims the right to divert, convey and use such water for other purposes and for power purposes at other power sites and all such rights are expressly reserved.
This is to certify that the application of which the foregoing is a true and correct copy has been considered and is hereby approved subject to vested rights, provisions of the Water Code of the State of California, and the following limitations and conditions; insofar as jurisdiction exists in the State of California, as supplemental to other rights of, and without prejudice to, any existing or vested rights of permitee:

1. The amount of water appropriated shall be limited to 8,000 cubic feet per second, or so much thereof as may be flowing at any time in the All-American Canal at the site of the power plant covered by said application, from January 1st to December 31st of each year.

2. The Colorado River flows along a part of the eastern boundary of the State of California and is the subject of an interstate compact, to which the State of California is a party. Under authority of an Act of Congress, the United States has contracted with Imperial Irrigation District, an irrigation district of the State of California, to construct the All-American Canal for said District and to deliver to the District at the District's point of diversion for said Canal, known as Imperial Dam, water for irrigation and domestic purposes in the quantity as in said contract provided and as referred to and set out in Permit issued in the matter of Application No. 7482. Under authority of said Act of Congress and as provided in said contract, the United States has granted to the District the right to utilize certain facilities on the All-American Canal; said application covers one of such facilities, which the District proposes to develop. Said facts are found to be such as bring the case within the terms of Section 1005 of the Water Code of California.

3. This permit supplements and is without prejudice to the rights held or claimed by said applicant under said contract with the United States, or under appropriation, user, or otherwise, to the use of water of and from the Colorado River for irrigation, domestic, power, and other purposes; provided, however, that any and all rights acquired under this permit shall be subject to said interstate compact and in particular to the provisions of Article IV(b) thereof which provide that the use of water of the Colorado River system for the generation of electric power shall be subordinated to the use and consumption of such water for agricultural and domestic purposes within the United States and shall not interfere with or prevent use for such dominant purposes.

4. In conformity with the provisions of that certain Agreement between Imperial Irrigation District and Coachella Valley County Water District, dated the 14th day of February, 1944, and in conformity with the provisions of Section 20 of said Agreement, this permit is approved to Imperial Irrigation District.
**SUPPLEMENTAL STATEMENT**

The attached application is made in connection with the use of water for DIVISION OF WATER RESOURCES. The application involves no way the right to construct a dam.

**APPLICATION TO APPROPRIATE UNAPPROPRIATED WATER**

This application involves no way the right to construct a dam.

<table>
<thead>
<tr>
<th>Name of applicant</th>
<th>El Centro</th>
<th>County of</th>
<th>Imperial</th>
</tr>
</thead>
<tbody>
<tr>
<td>State of</td>
<td>California</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

do hereby make application for a permit to appropriate the following described unappropriated waters of the State of California, SUBJECT TO EXISTING RIGHTS:

**Source, Amount, Use and Location of Diversion Works**

1. The source of the proposed appropriation is the Colorado River located in Imperial County, tributary to Gulf of California.

2. The amount of water which applicant desires to appropriate under this application is as follows:

   - (a) For diversion to be directly applied to beneficial use without storage: 9,000 cubic feet per second, to be divided January 1st to December 31st of each season.
   - (b) For diversion to be stored temporarily and later applied to beneficial use: 1 acre-foot per annum, to be collected between... and... of each season.

   

   **NOTE.**—A separate application must be made for each use except that incidental domestic use may be included with any other use.

3. The use to which the water is to be applied is Generation of electric energy for light, heat, power and other uses. Other uses may be ordered in the discretion of this Commission.

4. The point of diversion is to be made at Imperial Dam to be constructed by the United States in connection with the All American Canal, located S. 30' 50' E., 2495 ft. from N.W. corner Sec. 9, Lot 2, being within the 40-acre subdivision of U.S. Government survey or projection thereof.

5. The main conduit terminates in Sec. 4, Tp. 17 S., R. 24 W., S.B.M., in the County of Imperial.

**Description of Diversion Works**

- Intakes or Headworks: Fill all those blanks which apply
  - (a) Diversion will be made by pumping: Capacity of plant: 22 gallons per minute.
  - (b) Diversion will be by gravity, the diverting dam being: 1700 feet in height (stream bed to level of overflow): 2800 feet long on top; and constructed of rock fill covered with concrete slab.
  - (c) The storage dam will be: 1200 feet in height (stream bed to overflow level): 28 feet.
(b) Pipe Line: Diameter ______ inches; length ______ feet; grade ______ feet per 1,000 feet; total fall from intake to outlet ______ feet; kind ______.

Note.-If a combination of different sizes or kinds of conduit is to be used, attach extra sheets with complete description, also show location of each clearly on map.

9. The estimated capacity of the diversion works proposed is ______ cubic feet per second.

The estimated cost of the diversion works proposed is ______.

Completion Schedule

10. Construction work will be completed within ______ years after approval of this application.

The water will be completely applied to the proposed use within ______ years after approval of this application.

Description of Proposed Use

11. Place of Use.-W § of NE § Section 4, T 17 S., R 18 W., S.B.M.

The amount for which application is made was determined by ______ acres; general crops ______ acres; orchard ______ acres, as follows: rice ______ acres; alfalfa ______ acres; vegetables ______ acres; pasture ______ acres; etc.

Note.-Care should be taken that the various statements to which acreage is referred are consistent with each other, with the statement in Paragraph 11, and with the map.

The irrigation season will begin about ______ and end about ______.

The land to be irrigated has no other water right or source of water supply other than that herein applied for. The nature and amount of the additional supply referred to is ______.

14. Power Use. (See marginal note.) The total fall to be utilized is ______ feet.

The maximum amount of water to be used through the peastock is ______ cubic feet per second.

The maximum theoretical horsepower capable of being generated by the works is ______ horsepower.

The use to which the power is to be applied is ______.

The nature of the works by means of which power is to be developed is ______.

The water will be returned to ______.

Sec. ______, Tp. ______, R. ______, S.B.______.
and the nature of the mines is.

The method of utilizing the water is.

It is estimated that the ultimate water requirement for this project will be.

The water will not be polluted by chemicals or otherwise

and it will not be returned to

Sec., Tp., R., M.

17. Industrial Use. (See marginal note.) The nature of the use proposed is

The amount for which application is made was determined by

18. Recreational Use. (See marginal note.) Water will be used for

The amount for which application is made was determined by

General

19. Are the maps as required by the Rules and Regulations filed with Application? Yes No

If not, state specifically the time required for filing same.

20. Does the applicant own the land at the proposed point of diversion? Yes No

If not, state what steps have been taken to secure right of access thereto.

21. What is the name of the post office most used by those living near the proposed point of diversion?

22. What are the names and addresses of claimants of water from the source of supply below the proposed point of diversion?

None

[Signature]

IMPERIAL IRRIGATION DISTRICT
SUPPLEMENTAL STATEMENT

The attached application is made in connection with the use of water in the All-American Canal, and is supplementary to the rights of applicant by appropriation and under its contract with the United States and all such rights are expressly reserved.

It is proposed by applicant and applicant claims the right to divert from the Colorado River at the point indicated in this application and convey through the All-American Canal to the site of the power plant indicated in this application, the quantity of water named and to use all water thus conveyed, to the site of the power plant so indicated, for power purposes. Applicant also claims the right to divert, convey and use such water for other purposes and for power purposes at other power sites and all such rights are expressly reserved.
PERMIT No. 7646

This is to certify that the application of which the foregoing is a true and correct copy has been considered and is hereby approved subject to vested rights, provisions of the Water Code of the State of California, and the following limitations and conditions; insofar as jurisdiction exists in the State of California, as supplemental to other rights of, and without prejudice to, any existing or vested rights of permittees:

1. The amount of water appropriated shall be limited to 8000 cubic feet per second, or so much thereof as may be flowing at any time in the All-American Canal at the site of the power plant covered by said application, from January 1st to December 31st of each year.

2. The Colorado River flows along a part of the eastern boundary of the State of California and is the subject of an interstate compact, to which the State of California is a party. Under authority of an Act of Congress, the United States has contracted with Imperial Irrigation District, an irrigation district of the State of California, to construct the All-American Canal for said District and to deliver to the District at the District's point of diversion for said Canal, known as Imperial Dam, water for irrigation and domestic purposes in the quantity as in said contract provided and as referred to and set out in Permit issued in the matter of Application No. 7682. Under authority of said Act of Congress and as provided in said contract, the United States has granted to the District the right to utilize power possibilities on the All-American Canal; said application covers one of such possibilities which the District proposes to develop. Said facts are found to be such as bring the case within the terms of Section 1005 of the Water Code of California.

3. This permit supplements and is without prejudice to the rights held or claimed by said applicant under said contract with the United States, or under appropriation, user, or otherwise, to the use of water of and from the Colorado River for irrigation, domestic, power, and other purposes; provided, however, that any and all rights acquire under this permit shall be subject to said interstate compact and in particular to the provisions of Article IV(b) thereof which provide that the use of water of the Colorado River system for the generation of electric power shall be subservient to the use and consumption of such water for agricultural and domestic purposes within the United States and shall not interfere with or prevent use for such dominant purposes.

4. In conformity with the provisions of that certain Agreement between Imperial Irrigation District and Coachella Valley County Water District, dated the 14th day of February, 1934, and in conformity with the provisions of Section 20 of said Agreement, this permit is approved to Imperial Irrigation District.

This permit is limited and permits it subject to the following provisions of the Water Code:

Section 1044. Every permit 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 1045. Every permit shall include the description of conditions therein which in substance shall include all of the provisions of this article and the statement that any appropriation of water in which a permit is issued takes it subject to the conditions therein expressed.

Section 1055. Every permit, if it accepts a permit, does so under the conditions precedent that no water whatsoever in excess of the amount to be paid to the owner or owner in whose behalf the permit was filed be consumed by permittee in violation of these provisions, (of the Water Code) in respect to 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), or for any rights granted by any person or by the holder of any permit or under the provisions of this division (of the Water Code) or in respect to any valuation for purposes of sale or transfer of any permit or acquired under the provisions of this division (of the Water Code), or for any other exceptions to the provisions of this division (of the Water Code).

Witness my hand and the seal of the Department of Public Works of the State of California this 6th day of January 1950.

EDWARD HYATT, State Engineer

500336
DIVISION OF WATER RESOURCES

APPLICATION TO APPROPRIATE UNAPPROPRIATED WATER

This application involves in no way the right to construct a dam

1. Name of applicant:

   IMPERIAL IRRIGATION DISTRICT

   City of Imperial

   County of Imperial

   State of California

   Do hereby make application for a permit to appropriate the

   following described unappropriated waters of the State of California, SUBJECT TO EXISTING RIGHTS:

   Source, Amount, Use and Location of Diversion Works

   1. The source of the proposed appropriation is Colorado River

      located in Imperial County, tributary to Gulf of California

   2. The amount of water which applicant desires to appropriate under this application is as follows:

      (a) For diversion to be directly applied to beneficial use without storage...

      (b) For diversion to be stored temporarily and later applied to beneficial use...

   3. The use to which the water is to be applied is:

      electrical energy for light, heat, power and other uses

      NOTE--A separate application must be made for each use except that incidental domestic use may be included with any other use.

   4. The point of diversion is to be located at Imperial Dam to be constructed by United

      States in connection with All American Canal, located S. 90' 50' W. 2495 ft. from

      being within Sec. 9, Lot 2

      Tp. 15 S., R. 24 W., S.B. M., in the County of Imperial

   5. The main conduit terminates in Rk of NH 3

      of Sec. 17, Tp. 17 S., R. 19 W., S.B. M.

      NOTE--An application can not be approved for an amount greatly in excess of the estimated capacity of the diversion works.

   6. Intakes or Headworks (fill only those blanks which apply):

      (a) Diversion will be made by pumping; capacity of plant...

      (b) Diversion will be by gravity, the diverting dam being...

      (c) The storage dam will be...

   7. Storage Reservoir

      The storage reservoir will flood lands in

      It will have a surface area of...

      acre, and a capacity of...

     acre-feet.

NOTE: A permit to appropriate water must be made for each use except that incidental domestic use may be included with any other use.

NOTE: An application can not be approved for an amount greatly in excess of the estimated capacity of the diversion works.
The estimated capacity of the diversion works proposed is 15,000 cubic feet per second.

The estimated cost of the diversion works proposed is $6,100,000.

Completion Schedule

Started July, 1934

Construction work will be completed within 5 years after approval of this application.

The water will be completely applied to the proposed use within 20 years after approval of this application.

Description of Proposed Use

11. Place of Use. 

Section 4, T. 17 S., R. 19 E., S.B.M.

12. Domestic Use. (If incidental to one of the uses described in Paragraphs 11, 13, 16, 17 or 18 domestic use may be included in the same application with any one thereof, and Paragraph 12 should be filled out. If the domestic use is not incident to some other use an separate application is required.)

Domestic use is proposed as follows:

13. Irrigation Use. (See marginal note.) The area to be irrigated is ___________ acres.

The irrigation season will begin about ___________ and end about ___________.

The land to be irrigated has another water right or source of water supply other than that herein applied for. The nature and amount of the additional supply referred to is ___________.

14. Power Use. (See marginal note.) The total fall to be utilized is ___________ feet.

The maximum amount of water to be used through the penstock is ___________ cubic feet per second.

The maximum theoretical horsepower capable of being generated by the works is ___________ horsepower.

The nature of the works by means of which power is to be developed is ___________.

The water will be returned to All American Canal in Section 6 of N.W.t. Sec. 4, Tp. 17 S., R. 19 E., S.B.M.
16. Mining Use. (See marginal note.) The name of the mining property to be served is ________________________________ and the nature of the mines is ________________________________

The method of utilizing the water is ________________________________

It is estimated that the ultimate water requirement for this project will be ________________________________

The water will not be polluted by chemicals or otherwise ________________________________

and it will not be returned to ________________________________

Sec. __________, Tp. __________, R. __________, M. __________

17. Industrial Use. (See marginal note.) The nature of the use proposed is ________________________________

Describe nature and method of use ________________________________

The amount for which application is made was determined by ________________________________

Describe basis of estimate of quantity needed ________________________________

18. Recreational Use. (See marginal note.) Water will be used for ________________________________

Describe nature and method of use ________________________________

The amount for which application is made was determined by ________________________________

Describe basis of estimate of quantity needed ________________________________

General

19. Are the maps as required by the Rules and Regulations filed with Application? Yes __________. If not, state specifically the time required for filing same.

20. Does the applicant own the land at the proposed point of diversion? No __________. If not, state what steps have been taken to secure right of access there to. Contract with United States

21. What is the name of the post office most used by those living near the proposed point of diversion? Calexico, California

22. What are the names and addresses of claimants of water from the source of supply below the proposed point of diversion? None

[Signature of Applicant]

500339
The attached application is made in connection with the use of water in the All-American Canal, and is supplementary to the rights of applicant by appropriation and under its contract with the United States and all such rights are expressly reserved.

It is proposed by applicant and applicant claims the right to divert from the Colorado River at the point indicated in this application and convey through the All-American Canal to the site of the power plant indicated in this application, the quantity of water named and to use all water thus conveyed, to the site of the power plant so indicated, for power purposes. Applicant also claims the right to divert, convey and use such water for other purposes and for power purposes at other power sites and all such rights are expressly reserved.
This is to certify that the application of which the foregoing is a true and correct copy has been considered and is hereby approved subject to vested rights, provisions of the Water Code of the State of California, and the following limitations and conditions: insofar as jurisdiction exists in the State of California, as supplemental to other rights of, and without prejudice to, any existing or vested rights of permittees:

1. The amount of water appropriated shall be limited to 8,000 cubic feet per second, or so much thereof as may be flowing at any time in the All-American Canal at the site of the power plant covered by said application, from January 1st to December 31st of each year.

2. The Colorado River flows along a part of the eastern boundary of the State of California and is the subject of an interstate compact, to which the State of California is a party. Under authority of an Act of Congress, the United States has contracted with Imperial Irrigation District, an irrigation district of the State of California, to construct the All-American Canal for said District and to deliver to the District at the District's point of diversion for said Canal, known as Imperial Dam, water for irrigation and domestic purposes in the quantity as in said contract provided and as referred to and set out in permit issued in the matter of Application No. 7462. Under authority of said Act of Congress and as provided in said contract, the United States has granted to the District the right to utilise power possibilities on the All-American Canal; said application covers one of such possibilities which the District proposes to develop. Said facts are found to be such as bring the case within the terms of Section 1005 of the Water Code of California.

3. This permit supplements and is without prejudice to the rights held or claimed by said applicant under said contract with the United States, or under appropriation, user, or otherwise, to the use of water of and from the Colorado River for irrigation, domestic, power, and other purposes; provided, however, that any and all rights acquired under this permit shall be subject to said interstate compact and in particular to the provisions of Article IV(b) thereof which provide that the use of water of the Colorado River system for the generation of electric power shall be subservient to the use and consumption of such water for agricultural and domestic purposes within the United States and shall not interfere with or prevent use for such dominant purposes.

4. In conformity with the provisions of that certain Agreement between Imperial Irrigation District and Coachella Valley County Water District, dated the 14th day of February, 1934, and in conformity with the provisions of Section 20 of said Agreement, this permit is approved to Imperial Irrigation District.

This permit is issued and permits takes subject to the following provisions of the Water Code:

Section 1399. A permit 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 1391. Every permit shall include the enumeration of conditions therin which in substance shall include all of the provisions of this article and the statement that any appropriation of water to which a permit is issued taken in excess of the conditions therin expressed.

Section 1392. Every permittee, if he accepts a permit, 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 rights 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 excess of the regulations by any competent public authority of the service or the price of the services to be rendered by any permittee 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 districts, irrigation districts, lighting districts, or any political subdivision of the State, of the rights and property of any permittee, or the possessor of any rights granted, issued, or acquired under the provisions of this division (of the Water Code).

Witness my hand and the seal of the Department of Public Works of the State of California this 6th day of January 1950.

EDWARD HYATT, State Engineer

500341
APPLICATION TO APPROPRIATE UNAPPROPRIATED WATER

This application involves in no way the right to construct a dam
located in Imperial County, tributary to Gulf of California.

Source, Amount, Use and Location of Diversion Works

1. The source of the proposed appropriation is Colorado River.

2. The amount of water which applicant desires to appropriate under this application is as follows:

(a) For diversion to be directly applied to beneficial use without storage: 13,000 cubic feet per second, to be diverted from January 1st to December 31st of each year.

(b) For diversion to be stored temporarily and later applied to beneficial use: 1 acre-foot = 325,851 gallons per annum, to be collected between March 1st and September 30th of each season.

3. The use to which the water is to be applied is generation of electric energy for light, heat, power and other purposes.

4. The point of diversion is to be located at Imperial Dam to be constructed by United Irrigation Districts Association.

5. The main conduit terminates in N.W. 1/4 of SW 1/4 of Sec. 25, Tp. 16 S., R. 21 E., S.B.M., in the County of Imperial.

Description of Diversion Works

NOTE.—An application can not be approved for an amount greater in excess of the estimated capacity of the diversion works.

6. Intakes or Headworks (fill only those blanks which apply):

(a) Diversion will be made by pumping: Capacity of plant: blank.

(b) Diversion will be by gravity, the diverting dam being 25 feet in height (stream bed to level of overflow): 1,770 feet long on top; and constructed of rock fill covered by concrete slab.

(c) The storage dam will be blank feet in height (stream bed to overflow level): blank feet long on top, have a freeboard of blank feet, and be constructed of concrete, brick, etc.

7. Storage Reservoir

The storage reservoir will flood lands in blank.

[Signature]
App. 22, 1933
a. **Irrigation system (describe main conduits only)**

   (a) Canal, ditch, flume: Width on top (at water line) 232.14 feet; width at bottom 160 feet; depth of water 20.61 feet; length 110,000 feet; grade 0.0286 feet per 1,000 feet; materials of construction earth, rock and concrete

   (b) Pipe line: Diameter inches; length feet; grade feet per 1,000 feet; total fall from intake to outlet feet; kind.

   Note: If a combination of different sizes or kinds of conduit is to be used, attach extra sheets with complete description, also show location of each clearly on map.

9. The estimated capacity of the diversion works proposed is 16,000 cubic feet per second

The estimated cost of the diversion works proposed is $8,100,000

Completion Schedule

10. Construction work will begin July, 1934

   The water will be completely applied to the proposed use within 20 years after approval of this application.

Description of Proposed Use

11. Place of Use, a. within the line of Sec. 23, T. 16 S. R. 21 E., S.B.M.

   Since these subdivisions of the public land survey were prepared in the case of irrigations we take the number of acres to be irrigated in each section, if open on line. If open does not permit lining all 48 acres, describe area in a general way and show detail upon map. These blanks need not be filled in when municipal use is proposed.

   Does applicant own the land whereon use of water will be made? Yes or No

   To be furnished in connection with All-American Cable.

   If applicant does not own land whereon use of water will be made, state what arrangements have been made in each section, if open on line. If open does not permit lining all 48 acres, describe area in a general way and show detail upon map.

   The amount for which application is made was determined by

   Describe basis of estimate of quantity needed

12. Domestic Use (If incidental to one of the uses not described in Paragraph 11, 13, 14, 15, 16 or 17 domestic use may be included in the same application with any one thereof, and Paragraph 12 should be filled out. If the domestic use is not incidental to some other use on a separate application is required)

   Domestic use is as follows:

   The amount of water for irrigation is

   The segregation of acres as to crops is as follows: Rice acres; alfalfa acres; orchard acres; general crops acres.

   Note: Care should be taken that the various statements as to acreage are consistent with each other, with the statement in Paragraph 11, and with the map.

   The irrigation season will begin about and end about.

   The land to be irrigated has

   No other water right or source of water supply other than that herein applied for. The nature and amount of the additional supply referred to is

13. Irrigation Use. (See marginal note.) The area to be irrigated is

   The segregation of acres as to crops is as follows: Rice acres; alfalfa acres; orchard acres; general crops acres.

   The maximum amount of water to be used through the penstock is 13,000 cubic feet per second.

   The maximum theoretical horsepower capable of being generated by the works is horsepower.

   The use to which the power is to be applied is for distribution and sale and pumping and incidental uses.

   The nature of the works by means of which power is to be developed is

   The water will be returned to the

   Sec. 25, Tp. 16 S., R. 21 E., S.B.M.
16. Mining Use. (See marginal note.) The name of the mining property to be served is ___________________________
and the nature of the mines is ___________________________.
The method of utilizing the water is ___________________________.
It is estimated that the ultimate water requirement for this project will be ___________________________.
The water will not be polluted by chemicals or otherwise ___________________________.
and it will not be returned to ___________________________.
Sec., Tp., R., M.

17. Industrial Use. (See marginal note.) The nature of the use proposed is ___________________________.
The amount for which application is made was determined by ___________________________.

18. Recreational Use. (See marginal note.) Water will be used for ___________________________.
The amount for which application is made was determined by ___________________________.

General

19. Are the maps as required by the Rules and Regulations filed with Application? Yes__________. If not, No__________. If not, state specifically the time required for filing same ___________________________.

20. Does the applicant own the land at the proposed point of diversion? Yes__________. If not, state what No__________. If not, state what steps have been taken to secure right of access thereto ___________________________.

21. What is the name of the post office most used by those living near the proposed point of diversion? Hard, California

22. What are the names and addresses of claimants of water from the source of supply below the proposed point of diversion? U. S. Bureau of Reclamation, Yuma, Arizona
The attached application is made in connection with the use of water in and from the All-American Canal, and is supplementary to the rights of applicant by appropriation and under its contract with the United States hereinafter referred to. The All-American Canal Contract between applicant and the United States, dated December 1, 1932, provides for a capacity from Imperial Dam to Siphon Drop of 15,000 cubic feet of water per second and from Siphon Drop to Pilot Knob, the point designated in this application as the point where the power plant will be situated, of 13,000 cubic feet of water per second.

It is proposed by applicant and applicant claims the right to divert from the Colorado River at the point indicated and to use water through the All-American Canal from natural flow, from storage in Boulder Canyon reservoir and otherwise to a maximum of 13,000 cubic feet of water per second at Pilot Knob for power purposes when the water, or a portion of it, is not required for use within Imperial Irrigation District. That portion of the water that will be carried in the All-American Canal westerly from Pilot Knob to Imperial Irrigation District will be primarily used for irrigation and domestic purposes but will be incidentally used for power at various points on the All-American Canal and in the applicant's canal system and by this application to appropriate water for power purposes at the point indicated at Pilot Knob, applicant does not waive the right to pass any part of said water through the All-American Canal westerly from Pilot Knob and use the same for power purposes at other points on or in connection with the canal system of the applicant, and the All-American Canal, but that the right to use said water or any part of it for power purposes on or in connection with the canal system of the applicant and the All-American Canal is expressly reserved to applicant.
This is to certify that the application of which the foregoing is a true and correct copy has been considered and is hereby approved subject to vested rights, provisions of the Water Code of the State of California, and the following limitations and conditions; insofar as jurisdiction exists in the State of California, as supplemental to other rights of, and without prejudice to, any existing or vested rights of permittee:

1. The amount of water appropriated shall be limited to the amount available in the Colorado River at Imperial Dam for diversion into and carriage through the All-American Canal to Pilot Knob for the generation of electric power at the site covered by said application, and shall not exceed 13,000 cubic feet per second, to be diverted from January 1st to December 31st of each year.

2. The Colorado River flows along a part of the eastern boundary of the State of California and is the subject of an interstate compact, to which the State of California is a party. Under authority of an Act of Congress, the United States has contracted with Imperial Irrigation District, an irrigation district of the State of California, to construct the All-American Canal for said District and has included capacity in said Canal from Imperial Dam to Pilot Knob in addition to that required by the District for irrigation and domestic purposes; this additional capacity and other capacity in the Canal unused from time to time are available for power development at Pilot Knob. Under authority of said Act of Congress and as provided in said contract, the United States has granted to the District the right to utilize power possibilities on the All-American Canal; the said application covers one of such possibilities which the District proposes to develop. Under said contract, the United States also recognizes the right of the District to divert water to the full capacity of the All-American Canal if and when water over and above the quantity apportioned to the District under said contract is available; and the United States further agrees that no power development at Imperial and/or Laguna Dam shall be permitted to interfere with such diversion by the District. Said facts are found to be such as bring the case within the terms of Section 1005 of the Water Code of California.

3. This permit supplements and is without prejudice to the rights held or claimed by said applicant under said contract with the United States, or under appropriation, user, or otherwise, to the use of water of and from the Colorado River for irrigation, domestic, power and other purposes; provided, however, that any and all rights acquired under this permit shall be subject to said interstate compact and in particular to the provisions of Article IV(b) thereof which provide that the use of water of the Colorado River system for the generation of electric power shall be subservient to the use and consumption of such water for agricultural and domestic purposes within the United States and shall not interfere with or prevent use for such dominant purposes.
4. In conformity with the provisions of that certain agreement of compromise between Imperial Irrigation District and Coachella Valley County Water District, dated the 14th day of February, 1934, and in conformity with the provisions of Section 20 of said contract this permit is approved to Imperial Irrigation District and Coachella Valley County Water District as their respective privileges to utilize power possibilities on the All-American Canal may appear from their respective contracts with the United States, to wit: Imperial Irrigation District's contract with the United States, dated December 1, 1932, and Coachella Valley County Water District's contract with the United States, dated October 15, 1934. This permit is therefore issued in duplicate originals.

This permit is issued and permits it subject to the following provisions of the Water Code:

Section 1390. A permit 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 1391. Every permit shall include the enumeration of conditions therein which in substance shall include all of the provisions of this article and the statement that any appropriation of water to whom a permit is issued takes it subject to the conditions therein expressed.

Section 1392. Every permittee, if he accepts a permit, does so under the conditions precedent that no value whatsoever in excess of the actual amount paid to the State therefor shall at any time be assigned to or claimed for any permit 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 permittee 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, county, or municipal water district, irrigation district, lighting district, or any political subdivision of the State, of the rights and property of any permittee, or the possessor of any rights granted, issued, or causing under the provisions of this division (of the Water Code).

Witness my hand and the seal of the
Department of Public Works of the State of California
this 6th day of January 1950

500347
DIVISION OF WATER RESOURCES

APPLICATION TO APPROPRIATE UNAPPROPRIATED WATER

This application involves in no way the right to construct a dam.

1. The source of the proposed appropriation is the Colorado River, located in Imperial County, tributary to the Gulf of Lower California.

2. The amount of water which applicant desires to appropriate under this application is as follows:
   (a) For diversion to be directly applied to beneficial use without storage, 2000 cubic feet per second, to be diverted from January 1 to December 31 of each season.
   (b) For diversion to be stored temporarily and later applied to beneficial use, 1 acre-foot per annum, to be collected between January 1 and December 31 of each season.

3. The use to which the water is to be applied is irrigation, power, municipal, and purposes, to be made for each use except that incidental domestic use may be included with any other use.

4. The point of diversion is to be located at Imperial Dam, S. 30° 50' E., 2945', from NW Corner of Section 9, Tp. 15 S., R. 24 E., S.B.M., being within 2nd Lot 2, State 3rd Meridian West of E. 3rd, 1840, in the County of Imperial.

5. The main conduit terminates in N.E. 4th, N.W., of Sec. 10, Tp. 16 S., R. 19 E., S.B.M., being 3rd Meridian West of E. 3rd District, 1840, in the County of Imperial.

6. Intake or Headworks (fill only those blanks which apply)
   (a) Diversion will be made by pumping: Capacity of plant, 22,000 gallons per minute.
   (b) Diversion will be by gravity, the diverting dam being 62 feet long on top; and constructed of hollow concreteIndian river type dam.
   (c) The storage dam will be 22 feet in height (stream bed to level of overflow); 1220 feet long on top; and constructed of concrete, earth, brick, etc.

7. Storage Reservoir
   The storage reservoir will flood lands in the area shown upon the map.
   It will have a surface area of 22 acres, and a capacity of 3400 acre-feet.

NOTE—A separate application must be made for each use except that incidental domestic use may be included with any other use.
8. Conduit System (describe main conduit only)

(a) Canal, ditch, flume: Width on top (at water line) 232.14 feet; width at bottom 150 feet; depth of water 20.61 feet; length 12.56 miles; grade 0.0826 feet per 1,000 feet; materials of construction earth.

(b) Pipe line: Diameter inches; length feet; grade feet per 1,000 feet; total fall from intake to outlet feet; kind.

Note—If a combination of different sizes or kinds of conduit is to be used, attach extra sheets with complete description, also show location of each clearly on map.

9. The estimated capacity of the diversion works proposed is 15,000 cubic feet per second.

The estimated cost of the diversion works proposed is $6,100,000.

Completion Schedule

10. Construction work will begin within months after approval of this application.

Construction work will be completed within years after approval of this application.

The water will be completely applied to the proposed use within years after approval of this application.

Description of Proposed Use

11. Place of Use. Power plant will be located in N.E.\(\frac{1}{4}\) N.W.\(\frac{3}{4}\) Sec. 10, Township 15 S., Range 19 E., S.B.M.

If area or some of the public land survey were proposed, the location is shown on the face of the survey plat. If area is proposed, indicate the location of the public land tract, describe area in a general way and show detail upon map. These blocks need not be filled in when municipal use is proposed.

Does applicant own the land whereon use of water will be made? Yes.

12. Domestic Use. (If incidental use only, use the form for incidental use only; if domestic use, use the domestic use application.) Domestic use is proposed as follows:

- The area to be irrigated is acres.
- The area to be irrigated is acres.
- The area to be irrigated is acres.
- The area to be irrigated is acres.

The irrigation season will begin on and end on.

13. Power Use. (See marginal note.) The total fall to be utilized is 33.27 feet. The maximum amount of water to be used through the penstock is 8,000 cubic feet per second.

14. Water Use. The nature of the works by which power is to be developed is Turbine.

The water will not be returned to the Colorado River.
This is to certify that the application of which the foregoing is a true and correct copy has been considered and is hereby approved subject to vested rights, provisions of the Water Code of the State of California, and the following limitations and conditions; insofar as jurisdiction exists in the State of California, as supplemental to other rights of, and without prejudice to, any existing or vested rights of permittees:

1. The amount of water appropriated shall be limited to 2,000 cubic feet per second, or so much thereof as may be flowing at any time in the All-American Canal at the site of the power plant covered by said application, from January 1st to December 31st of each year.

2. The Colorado River flows along a part of the eastern boundary of the State of California and is the subject of an interstate compact to which the State of California is a party. Under authority of an Act of Congress the United States has contracted with Coachella Valley County Water District, a County Water District of the State of California, and as such a public agency, to construct capacity in the All-American Canal for said District and to deliver to said District at the District's point of diversion for said Canal known as Imperial Dam, water for irrigation and domestic purposes in the quantity as in said contract provided and as referred to and set out in Permit No. 7650. Under authority of said Act of Congress and as provided in said contract, the United States has granted to the District the right to utilize power possibilities on the All-American Canal. Said application covers one of such possibilities which the District proposes to develop. Said facts are found to be such as bring the case within the terms of Section 1005 of the Water Code of California.

3. This permit supplements and is without prejudice to the rights held or claimed by said applicant under said contract with the United States, or under appropriation, user, or otherwise, to the use of water of and from the Colorado River for irrigation, domestic, power, and other purposes; provided, however, that any and all rights acquired under this permit shall be subject to said interstate compact and in particular to the provisions of Article IV(b) thereof which provide that the use of water of the Colorado River system for the generation of electric power shall be subservient to the use and consumption of such water for agricultural and domestic purposes within the United States and shall not interfere with or prevent use for such dominant purposes.

4. In conformity with the provisions of that certain agreement of compromise between Imperial Irrigation District and Coachella Valley County Water District, dated
the 14th day of February, 1934, and in conformity with the provisions of Section 20 of said Contract this permit is approved to Coachella Valley County Water District and Imperial Irrigation District as their respective privileges to utilize power possibilities on the All-American Canal may appear from their respective contracts with the United States, to wit: Imperial Irrigation District's Contract dated December 1, 1932, and Coachella Valley County Water District's Contract with the United States dated October 15, 1934. This permit is therefore issued in duplicate originals.

This permit is issued and permittee takes it subject to the following provisions of the Water Code:

Section 1390. A permit 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 1391. Every permit shall include the enumeration of conditions therein which in substance shall include all of the provisions of this article and the statement that any appropriation of water to whom a permit is issued takes it subject to the conditions therein expressed.

Section 1392. Every permittee, if he accepts a permit, also assumes the conditions precedent that no value whatever in excess of the actual amount paid to the State therefor shall at any time be assigned or claimed for any permit 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 component public water district of the services or the price of the service to be rendered by any permittee 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, Irrigation districts, or any political subdivision of the State, of the rights and interests of any permittee, or of the holder of any rights granted, under the provisions of this division (of the Water Code).

Witnes my hand and the seal of the
Department of Public Works of the State of Cali
this 6th day of January 1934

[Signature]
State Engineer
This application is filed pursuant to the recommendations of the Division of Water Resources contained in "Memorandum on Colorado River Allocation" dated September 8, 1951, and the amount of water which may be diverted hereunder is subject to that certain agreement dated August 18, 1901, by and between Yuma Yerba Irrigation District, Imperial Irrigation District, Coachella Valley County Water District, City of Los Angeles, the Metropolitan Water District of Southern California, City of San Diego, and County of San Diego, and subject also to that certain agreement dated February 14, 1954, by and between Imperial Irrigation District and Coachella Valley County Water District, copies of which said agreements have heretofore been filed with the Division of Water Resources and to which reference is hereby made.

This application is made in connection with the use of water in and from the All-American Canal and is supplemental to the rights of applicant by appropriation and under its contract with the United States for construction of capacity in the All-American Canal, etc., dated October 15, 1934.

It is proposed by applicant and applicant claims the right to divert from the Colorado River at the point indicated in this application and convey through the All-American Canal to the site of the power plant indicated in this application the quantity of water named and to use all water thus conveyed for power purposes. Applicant also claims the right to divert, convey and use such water for other purposes and for power purposes at other power sites and all such rights are expressly reserved.

18. Recreational Use. (See marginal note.) Water will be used for: ________________________________

The amount for which application is made was determined by: ________________________________

General

19. Are the maps as required by the Rules and Regulations filed with Application? Yes No

If not, state specifically the time required for filing same: ________________________________

20. Does the applicant own the land at the proposed point of diversion? No Yes

If not, state what steps have been taken to secure right of access thereto: ________________________________

21. What is the name of the post office most used by those living near the proposed point of diversion?
   Bard, California.

22. What are the names and addresses of claimants of water from the source of supply below the proposed point of diversion?
   Yuma, Phoenix, Arizona, Bureau of Reclamation,
   Imperial Irrigation District, El Centro, California.

STEWARD, SHAW & MURPHY

COACHELLA VALLEY COUNTY WATER DISTRICT

By /s/ [Signature of Applicant] By /s/ [Signature of Applicant]

Attorneys for Applicant.
APPENDIX 13

BOULDER CANYON PROJECT
ALL-AMERICAN CANAL

UNITED STATES
AND
IMPERIAL IRRIGATION DISTRICT
DECEMBER 1, 1932
321
ALL-AMERICAN CANAL—CONTRACT FOR CONSTRUCTION OF DIVERSION DAM, MAIN CANAL AND APPURTENANT STRUCTURES AND FOR DELIVERY OF WATER

Article
1. Contract for construction of Diversion Dam, main canal and appurtenant structures, and for delivery of water.
2-6. Explanatory recitals.
7. Construction by United States.
8. Assumption of operation and maintenance by district.
10. Agreement by district to pay for works constructed by the United States.
11. Changes in district boundaries.
12. Terms of payment.
13. Operation and maintenance costs.
15. Diversion and delivery of water for Yuma project.
17. Delivery of water by United States.
19. Record of water diverted.
20. Refusal of water in case of default.
21. Use of works by United States and others.
22. Title to remain in the United States.
25. Inspection by the United States.
27. Disputes or disagreements.
28. Interest and penalties.
29. Agreement subject to Colorado River compact.
30. Application of reclamation law.
31. Contract to be authorized by election and confirmed by court.
32. Method of determining net power proceeds.
33. Contingent upon appropriations.
34. Inclusion of lands.
35. Priority of claims of the United States.
36. Rights reserved under section 5737, Revised Statutes.
37. Remedies under contract not exclusive.
38. Interest in contract not transferable.
39. Member of Congress clause.
ALL-AMERICAN CANAL

CONTRACT FOR CONSTRUCTION OF DIVERSION DAM, MAIN CANAL, AND APPURTEIN STRUCTURES AND FOR DELIVERY OF WATER

ARTICLE 1. This contract, made this 1st day of December, nineteen hundred thirty-two, pursuant to the act of Congress approved June 17, 1902 (32 Stat. 388), and acts amendatory thereof or supplementary thereto, all of which acts are commonly known and referred to as the reclamation law, and particularly pursuant to the act of Congress approved December 21, 1928 (45 Stat. 1057), designated the Boulder Canyon project act, between the United States of America, hereinafter referred to as the United States, acting for this purpose by Ray Lyman Wilbur, Secretary of the Interior, hereinafter styled the Secretary, and Imperial Irrigation District, an irrigation district created, organized, and existing under and by virtue of the laws of the State of California, with its principal place of business at El Centro, Imperial County, Calif., hereinafter referred to as the district.

Witnesseth:

EXPLANATORY RECITALS

Art. 2. Whereas, for the purpose of controlling the floods, improving navigation, and regulating the flow of the Colorado River, providing for storage and for the delivery of the stored waters for reclamation of public lands and other beneficial uses exclusively within the United States, the Secretary, subject to the terms of the Colorado River compact, is authorized to construct, operate, and maintain a dam and incidental works in the main stream of the Colorado River at Black Canyon or Boulder Canyon, adequate to create a storage reservoir of a capacity of not less than twenty million acre-feet of water, and a main canal and appurtenant structures located entirely within the United States connecting the Laguna Dam, or other suitable diversion dam, which the Secretary is also authorized to construct if deemed necessary or advisable by him upon engineering or economic considerations, with the Imperial and Coachella Valleys in California, the expenditures for said main canal and appurtenant structures to be reimbursable as provided in the reclamation law; and

Art. 3. Whereas, after full consideration of the advantages of both the Black Canyon and Boulder Canyon Dam sites, the Secretary has determined upon Black Canyon as the site of the aforesaid dam, hereinafter styled the Hoover Dam, creating thereby a reservoir to be hereinafter styled the Boulder Canyon Reservoir; and

Art. 4. Whereas, there are included within the boundaries of the district areas of private and public lands, and additional private and public lands will by appropriate proceedings be included within the district, and the district is desirous of entering into a contract for the construction of a suitable diversion dam and main canal and appurtenant structures, hereinafter respectively styled Imperial Dam and All-American Canal, located entirely within the United States connecting with the Imperial and Coachella Valleys, for the delivery to the district of stored water from Boulder Canyon Reservoir; and
Art. 5. Whereas, the Secretary has determined, upon engineering and economic considerations, that it is advisable to provide for the construction of such diversion dam and main canal and appurtenant structures, and has determined that the revenues provided for by this contract are adequate in his judgment to insure payment of all expenses of construction, operation, and maintenance of the said diversion dam, main canal, and appurtenant structures in the manner provided in the reclamation law;
Art. 6. Now therefore, in consideration of the mutual covenants herein contained, the parties hereto agree as follows, to wit:

CONSTRUCTION BY UNITED STATES

Art. 7. The United States will construct the Imperial Dam in the main stream of the Colorado River at the approximate location indicated on the map marked Exhibit A attached hereto and by this reference made a part hereof, and will also construct the All-American Canal and appurtenant structures to the Imperial and Coachella Valleys, the approximate location of said canal to be as shown on the aforesaid Exhibit A. Said canal shall be constructed to a designed capacity of fifteen thousand (15,000) cubic feet of water per second from and including the diversion and desilting works at said dam and Syphon Drop; thirteen thousand (13,000) cubic feet of water per second from Syphon Drop to Pilot Knob; and ten thousand (10,000) cubic feet of water per second westerly from Pilot Knob to Engineer Station nineteen hundred and seven as said Engineer Station is indicated on said Exhibit A. Other portions of said canal shall be constructed with such capacities as the Secretary may conclusively determine to be necessary or advisable upon engineering or economic considerations to accomplish the ends contemplated by this contract; provided, however, that changes in capacities, locations, lengths, and alignments may be made during the progress of the work as may, in the opinion of the Secretary, whose opinion shall be final and binding upon the parties hereto, be expedent, economical, necessary, advisable, except the capacities above indicated from and including the diversion and desilting works at Imperial Dam to Engineer Station nineteen hundred and seven as hereinabove referred to, which capacities may be changed only by mutual agreement between the Secretary and the district. The ultimate cost to the district of the aforesaid works shall in no event exceed the aggregate sum of thirty-eight million five hundred thousand dollars ($38,500,000). Such cost shall include all expenses of whatsoever kind heretofore or hereafter incurred by the United States from the reclamation fund or the Colorado River Dam fund in connection with, growing out of, or resulting from the construction of said diversion dam, main canal, and appurtenant structures, including but not limited to the cost of labor, materials, equipment, engineering, legal work, superintendence, administration, overhead, any and all costs arising from operation and maintenance of said dam, main canal, and appurtenant structures prior to the time that said costs are assumed by the district, damage of all kinds and character and rights of way as hereinafter provided. The district hereby agrees to repay to the United States expenditures incurred on account of any and all damages due to the existence, operation, or maintenance of the diversion by the United States beyond said sum of $38,500,000. The United States will invoke all legal and valid reservations of rights of way under acts of Congress, or otherwise reserved or held by it, without cost to the district, except that the United States reserves the right where rights of way are thus acquired to reimburse the owners of such lands for the value of improvements which may be destroyed, and the district agrees that the United States may include such disbursements in the cost of the work to be performed hereunder. If rights of way are required over an existing project of the Bureau of Reclamation, such sum or sums as may be necessary to reimburse the United States on account of the construction charges allocated to irrigable areas absorbed in such rights of way shall also be considered as a part of and be included with other costs of the work to be performed hereunder. The district agrees to convey to the United States without cost, unencumbered, fee simple title to any and all lands now owned by it which, in the opinion of the Secretary, may be required for right of way purposes for the aforesaid diversion dam, main canal, and appurtenant structures. Where rights of way within the State of California are required for the construction of works herein provided for, and such rights of way are not reserved to the United States under acts of Congress, or otherwise, or the lands over which such rights of way are required are not then owned by the district, the district agrees that it will, upon request of the Secretary, acquire title to such lands, and in turn convey unencumbered fee simple title thereto to the United States at the actual cost thereof to the district, subject to the approval of such cost by the Secretary.

ASSUMPTION OF OPERATION AND MAINTENANCE BY DISTRICT

Art. 8. Upon sixty (60) days' written notice from the Secretary of the completion of construction of the aforesaid diversion dam, main canal, and appurtenant structures, or of any major unit thereof useful to the district as determined by the Secretary, whose determination thereof shall be final and binding upon the parties hereto, the district shall assume the care, operation, and maintenance of said diversion dam, main canal, and appurtenant structures, or major units thereof, including Laguna Dam, and thereafter the district shall at its own cost and without expense to the United States care for, operate, and maintain the same in such manner that such works shall remain in as good and efficient condition and of equal capacity for the diversion, transportation, and distribution of water as when received from the United States, reasonable wear and damage by the elements excepted. Operation and maintenance of Imperial Dam by the district is a part of the obligation undertaken under this contract by the district for the transportation and delivery of water to public and Indian lands of the United States, and shall not interfere with the control of such dam by the United States. The United States may from time to time in the discretion of the Secretary, reserve, maintain and operation of said dam upon not less than sixty (60) written notice and require reassertion thereof by the district on notice. During such times, after completion, as the dam is operated and maintained by the United States, the district shall on March 1 of each year advance to the United States the estimated cost of operation and maintenance for the following twelve months, upon estimates furnished therefor on or before September 1 next preceding. After the
care, operation, and maintenance of the aforesaid works have been assumed by the district, the district shall save the United States, its officers, agents, and employees harmless as to any and all injury and damage to persons and property which may arise out of the care, operation, and maintenance thereof. In the event the United States fails to complete the works herein contemplated and the district fails to elect to make use of the works theretofore partially or wholly constructed, the district shall be fully relieved of any and all responsibility for any further operation and maintenance of the works theretofore taken over by the district for that purpose and thereupon the district shall no longer be responsible for said maintenance or operation or damage to person or property which may arise therefrom.

KEEPPING DIVERSION DAM, MAIN CANAL, AND APPURTENT STRUCTURES IN REPAIR

Art. 9. Except in case of emergency no substantial change in any of the works to be constructed by the United States and transferred to the district under the provisions hereof shall be made by the district without first having had and obtained the written consent of the Secretary and the Secretary’s opinion as to whether any change in any such works is or is not substantial shall be conclusive and binding upon the parties hereto. The district shall promptly make any and all repairs to and replacements of all works constructed hereunder or transferred to it under the terms and conditions hereof, which in the opinion of the Secretary are deemed necessary for the proper operation and maintenance of such works. In case of neglect or failure of the district to make such repairs, the United States may, at its option after reasonable notice to the district, cause such repairs to be made and charge the actual cost thereof plus fifteen per centum (15%) to cover overhead and general expense to the district. On or before September 1 of each calendar year the United States shall give written notice to the district of the amount expended by the United States for repairs under this article during the twelve-month period immediately preceding. Such cost plus overhead and general expense stated above shall be repaid by the district on March 1 immediately succeeding.

AGREEMENT BY DISTRICT TO PAY FOR WORKS CONSTRUCTED BY THE UNITED STATES

Art. 10. (a) The district agrees to pay the United States the actual cost, not exceeding thirty-eight million five hundred thousand dollars ($38,500,000), incurred by the United States on account of the aforesaid works, subject, however, to the provisions of article seven (7) hereof; provided, that should Congress fail to make necessary appropriations to complete the work herein provided for, then the Secretary may, at such reasonable time as he may consider advisable, after Congress shall have failed for five consecutive years to make the necessary appropriations which shall have been annually requested by the Secretary, give the district notice of the termination of work by the United States and furnish a statement of the amount actually expended by the United States thereon. Upon the receipt of such notice by the district the district shall be given two years from and after such notice to elect whether it will utilize said works theretofore constructed, or some particular part thereof. Such election on the part of the district shall be expressed by resolution of the board of directors submitted to the electorate of the district for approval or rejection in the manner provided by law for submission of contracts with the United States. If the district elects not to utilize, or fails within said two-year period to elect to utilize said works or some portion thereof, then the district shall have no further rights therein and no obligations therefor. If the district elects to utilize said works or a portion thereof, then the reasonable value to the district of the works so utilized not exceeding the actual cost thereof to the United States shall be paid by the district under the terms of this contract in the first payment to be due and payable on the first day of March following the first day of September next succeeding the final determination of the reasonable value to the district of such works, in case no further work is done by the district. Should the district elect to complete the work contemplated by this contract, or some portion thereof, the first payment shall be due and payable on the first day of March following the first day of September next succeeding the date of final completion of the work by the district as determined by the Secretary. In determining the value of such works to the district there shall be taken into account, among other things, the method of financing required and cost of money, so that in no event shall all of the works contemplated by this contract cost the district more than they would have cost the district had they all been constructed by the United States under the terms of this contract. In the event of failure of the parties to agree as to the reasonable value to the district of the works which the district elects to use, the same shall be determined as provided in article twenty-seventh (27) hereof.

(b) The district as a whole is obligated to pay to the United States the full amount herein agreed upon regardless of the default or failure of any tract in the district, or of any landowner in the district, in the payment of the assessments levied by the district against such tract or landowner, and the district shall, when necessary, levy and collect appropriate assessments to make up for the default or delinquency of any tract of land or of any landowner in the payment of assessments, so that in any event, and regardless of any defaults or delinquencies in the payment of any assessment or assessments, the amounts due to become due the United States shall be paid to the United States by the district when due.

(c) The district shall be divided into units by the board of directors of the district. Said units shall be named, commencing with Imperial Unit, which unit shall comprise the lands of the district as of July 1, 1934, that are not to be used for the construction of any other unit. Each of the other units shall be as determined by the board of directors of the district and shall be described by legal description of the lands embraced therein or by designation of exterior boundaries otherwise suitable for identification. Additional lands may be added to any unit herein or hereafter designated.

(d) The lands within each unit as hereinabove provided for will be benefited by the works to be constructed under this contract in the proportion that the area within such unit bears to the total area of the district and the costs of the said works, construction, and otherwise, shall be apportioned to and paid by the lands within each unit in that proportion. In levying assessments or other charges to pay the cost of the said works, the board of directors of the district shall take into
consideration payments to be made under this contract, with proper allowance for existing and anticipated delinquencies and redemptions, in order to provide sufficient funds to meet such payments as same become due and said board shall also take into account all sums expended or to be expended under the contract of October 25, 1915, for the right to connect with the Laguna Dam, the cost of all surveys and investigations and other expenditures properly chargeable as a part of the said works but which are not included as a part of the construction cost thereof reimbursable to the United States under this contract. While the cost of the said works and other expenditures above mentioned shall be apportioned to the various units according to their respective areas, it is understood that the assessments or other charges to be imposed upon the lands within each respective unit shall be on an ad valorem or other basis as may hereafter be provided by law for assessment or imposition of other charges upon lands within irrigation districts. Rates of assessment or schedule in the various units from year to year or from time to time may be different or unequal as between the various units. If the amount collected from any unit in any year shall be less than the amount apportioned to such unit for that year for such purpose, the deficit shall nevertheless be charged to that unit and any fund or funds of the district from which money may be taken to make up such deficit in order to provide for the payment in full of the obligations of the district, shall be entitled to reimbursement for such money from subsequent collections of unpaid assessments or charges in said unit or from the amounts received for the redemption of lands sold for delinquent assessments or charges, or from subsequent or additional levies made on the lands within that unit to provide for such reimbursement.

(g) The district shall have the right to refuse water service to any lands within the district which may at any time be delinquent in the payment of any assessment levied for the purpose of carrying out the provisions of this contract.

CHANGES IN DISTRICT BOUNDARIES

Art. 11. After the date of this contract no change shall be made in the boundaries of the district, and the board of directors shall make no order changing the boundaries of the district unless and until the Secretary shall assent to such change in writing, and such assent shall have been filed with the board of directors of the district; provided, however, that such assent is hereby given for the inclusion of all of the lands indicated on Exhibit A referred to in article 34 hereof.

TERMS OF PAYMENT

Art. 12. The amount herein agreed to be paid to the United States shall be due and payable in not more than forty (40) annual installments, commencing with the calendar year next succeeding the year when notice of completion of all work provided for herein is given to the district or under the provisions of article 10 (a) hereof upon termination of work through failure of Congress to make necessary appropriations therefor. The first five of such annual installments shall each be one per centum (1%) of the amount herein agreed to be paid to the United States; the next ten of such installments shall each be two per centum (2%) of the amount herein agreed to be paid to the United States; and the remainder of such annual installments shall each be three per centum (3%) of the amount herein agreed to be paid to the United States. The sums payable annually as set forth above shall be divided into two equal semiannual payments, payable on March 1 and September 1 of each year; provided, however, that if notice of the completion of work is given to the district subsequent to September 1 of any year the first semiannual installment of charges hereunder shall be due and payable on March 1 of the second succeeding year.

OPERATION AND MAINTENANCE COSTS

Art. 13. Each agency other than the district for which capacity is provided in the works to be constructed hereunder shall bear such proportionate part of the cost of operation and maintenance (including repairs and replacements) of the component parts thereof and of the Laguna Dam as may be determined by the Secretary to be equitable and just, but not less than an amount in proportion to the total amount as are the relative capacities provided in each component part for such agency and for all other agencies, including the district. Each agency shall advance to the district, on or before January 1 of each year, its proportionate share of the estimated cost for the year of operation and maintenance, in accordance with a notice to be issued by the district; provided, that payment shall in no event be due until thirty days after receipt of notice. Prior to March 1 of each year the district shall provide each agency with a statement showing in detail the costs for the previous year for operation and maintenance of the works on account of which such agency has made advances. Differences between actual costs and estimated costs shall be adjusted in next succeeding notices. Upon request of any agency the ad-
vance notice of estimated costs and the subsequent statement of actual costs for each year shall be reviewed by the Secretary and his determination of proper charges shall be final. Such review shall not change the due date for advance payments as herein provided, and the cost of such review shall be borne equally by the requesting agency and the district. The district may, at its option, withhold the delivery of water from any agency until its proportionate share of the costs of operation and maintenance have been advanced or paid as in this article provided.

POWERS POSSIBILITIES

Art. 14. As one of the considerations for the partial termination of the contract of October 23, 1918, as provided for in article sixteen (16) hereof, the power possibilities on the All-American Canal down and including Syphon Drop with water carried for the benefit of the Yuma project as provided for in article fifteen (15) hereof, are hereby reserved to the United States. Subject to the foregoing provisions of this article and the participation by other agencies as provided for in article twenty-one (21) hereof, the district shall have the privilege at any time of utilizing by contract or otherwise such power possibilities as may exist upon said canal. The net proceeds as hereinafter defined in article thirty-two (32) hereof and as determined by the Secretary for each calendar year from any such power development shall be paid into the Colorado River Dam fund on March 1 of the next succeeding calendar year and credited to the district on this contract until the district shall have paid hereby and/or otherwise an amount of money equivalent to the gross revenue agreed to be paid to the United States. Thereafter such net power proceeds shall belong to the district. It is agreed that in the event the net power proceeds in any calendar year, creditable to the district, exceed the annual installment of charges payable under this contract during the then current calendar year, the excess of such net power proceeds shall be credited on the next succeeding unpaid installment to become due from the district under this contract.

DIVERSION AND DELIVERY OF WATER FOR YUMA PROJECT

Art. 15. As a further consideration for the partial termination of the contract of October 23, 1918, as provided in article sixteen (16) hereof, the district hereby agrees to divert at the Imperial Dam, and to transport and deliver at Syphon Drop and/or such intermediate points as may be designated by the Secretary, the available water to which the Yuma project (situated entirely within the United States and not exceeding in area 120,000 acres plus lands lying between the project levees and the Colorado River as such levees are located in 1931) is entitled, not exceeding two thousand (2,000) second-feet of water in the aggregate, or such part thereof as the Secretary may direct, for the use and benefit of said project, including the development of power at Syphon Drop, such water to be diverted, transported, and delivered continuously in so far as reasonable diligence will permit; provided, however, that water shall not be diverted, transported, or delivered for the Yuma project when the Secretary notifies the district of said project for any reason may not be entitled thereto; provided further, that the district shall divert, transport, and deliver such water in excess of requirements for irrigation or potable purposes, as determined by the Secretary, on the Yuma project as so limited, only when such water is not required by the district for irrigation or potable purposes. The diversion, transportation, and delivery of water for the Yuma project as aforesaid shall be without expense to the United States or its successors in control of said project, as to capital investment required to provide facilities for such diversion and transportation of water, except such checks, turnouts and other structures required for delivery from said canal.

CONTRACT OF OCTOBER 23, 1918

Art. 16. That certain contract between the United States of America and the district, bearing date of October 23, 1918, providing for a connection with Laguna Dam is hereby terminated except as to the provisions of article nine (9) thereof, and as one of the considerations for the partial termination of said contract by the United States, the district hereby promises and agrees to make full payment to the United States of all unpaid installments of charges as provided in article nine (9) of said agreement, anything in said contract to the contrary notwithstanding. As an additional consideration for the partial termination of said contract of October 23, 1918, the district hereby promises and agrees to furnish to the United States or its successors in interest in the control, operation, and maintenance of the Yuma project, from any power development on the All-American Canal at or near Pilot Knob, up to but not to exceed four thousand horsepower of electrical energy for use by the agency in charge of project operations for irrigation and drainage pumping purposes and necessary incidental use on said Yuma project, such power to be furnished at such times as shall be required at such times as power feasible of development at Syphon Drop or elsewhere within a radius of 40 miles from the city of Yuma for the benefit of the Yuma project is being used for project operations as in this article specified.

DELIVERY OF WATER BY UNITED STATES

Art. 17. The United States shall, from storage available in the reservoir created by Hoover Dam, deliver to the district each year at a point in the Colorado River immediately above Imperial Dam, so much water as may be necessary to supply the district a total quantity, including all other waters diverted for use within the district from the Colorado River, in the amounts and with priorities in accordance with the recommendation of the chief of the Division of Water Resources of the State of California, as follows: for availability thereof for use in California under the Colorado River compact and the Boulder Canyon project acts:

The waters of the Colorado River available for use within the State of California under the Colorado River compact and the Boulder Canyon project act shall be apportioned to the respective interests named and in amounts and with priorities therein named and set forth, as follows:

SECTION 1. A first priority to Palo Verde Irrigation District for beneficial use exclusively upon lands in said district as now exists and upon lands between said district and the Colorado River, aggre-
gating (within and without said district) a gross area of 104,500 acres, such waters as may be required by said lands.

Sec. 2. A second priority to Yuma project of the United States Bureau of Reclamation for beneficial use upon not exceeding a gross area of 25,000 acres of land located in said project in California, such waters as may be required by said lands.

Sec. 3. A third priority (a) to Imperial Irrigation District and other lands under or that will be served from the All-American Canal in Imperial and Coachella Valleys, and (b) to the Lower Palo Verde Irrigation District for use exclusively on 16,000 acres in that area known as the "Lower Palo Verde Mesa," adjacent to Palo Verde Irrigation District for beneficial consumptive use, 2,550,000 acre-feet of water per annum, less the beneficial consumptive use under the priorities designated in sections 1 and 2 above. The rights designated (a) and (b) in this section are equal in priority. The total beneficial consumptive use under priorities stated in sections 1, 2, and 3 of this article shall not exceed 3,850,000 acre-feet of water per annum.

Sec. 4. A fourth priority to the Metropolitan Water District of Southern California and/or the City of Los Angeles for beneficial consumptive use, by themselves and/or others, on the coastal plain of Southern California, 550,000 acre-feet of water per annum.

Sec. 5. A fifth priority (a) to the Metropolitan Water District of Southern California and/or the City of Los Angeles for beneficial consumptive use, by themselves and/or others, on the coastal plain of Southern California, 550,000 acre-feet of water per annum and (b) to the City of San Diego and/or County of San Diego for beneficial consumptive use, 112,000 acre-feet of water per annum. The rights designated (a) and (b) in this section are equal in priority.

Sec. 6. A sixth priority (a) to Imperial Irrigation District and other lands under or that will be served from the All-American Canal in Imperial and Coachella Valleys, and (b) to the Lower Palo Verde Irrigation District for use exclusively on 16,000 acres in that area known as the "Lower Palo Verde Mesa," adjacent to Palo Verde Irrigation District for beneficial consumptive use, 300,000 acre-feet of water per annum. The rights designated (a) and (b) in this section are equal in priority.

Sec. 7. A seventh priority of all remaining water available for use within California for agricultural use in the Colorado River Basin in California, as said basin is designated on map No. 23000 of the Department of the Interior, Bureau of Reclamation.

Sec. 8. So far as the rights of the allottees named above are concerned, the Metropolitan Water District of Southern California and/or the City of Los Angeles shall have the exclusive right to withdraw and divert into its aqueduct any water in Boulder Canyon Reservoir accumulated by the individual credit of said district and/or said city (not exceeding at any one time 4,750,000 acre-feet in the aggregate) by reason of reduced diversions by said district and/or said city; provided, that accumulations shall be subject to such conditions as to accumulation, retention, release, and withdrawal as the Secretary of the Interior may from time to time prescribe in his discretion and his determination thereof shall be final; provided further, that the United States of America reserves the right to make similar arrangements with users in other States without distinction in priority, and to determine the relative relations between said district and said city and such users resulting therefrom.

Sec. 9. In no event shall the rights of the allottees named above are concerned, the City of San Diego and/or County of San Diego shall have the exclusive right to withdraw and divert into an aqueduct any water in Boulder Canyon Reservoir accumulated to the individual credit of said city and/or said county (not exceeding at any one time 250,000 acre-feet in the aggregate) by reason of reduced diversions by said city and/or said county; provided, that accumulations shall be subject to such conditions as to accumulation, retention, release, and withdrawal as the Secretary of the Interior may from time to time prescribe in his discretion, and his determination thereof shall be final; provided further, that the United States of America reserves the right to make similar arrangements with users in other States without distinction in priority, and to determine the relative relations between the said city and/or said county and such users resulting therefrom.

Sec. 10. In no event shall the amounts allotted in this agreement to the Metropolitan Water District of Southern California and/or the City of Los Angeles be increased on account of inclusion of a supply for both said district and said city, and either or both may use said apportionments as may be agreed by and between said district and said city.

Sec. 11. In no event shall the amounts allotted in this agreement to the City of San Diego and/or to the County of San Diego be increased on account of inclusion of a supply for both said city and said county, and either or both may use said apportionments as may be agreed by and between said city and said county.

Sec. 12. The priorities hereinbefore set forth shall be in no wise affected by the relative dates of water contracts executed by the Secretary of the Interior with the various parties.

The Secretary reserves the right to, and the district agrees that he may, contract with any of the allottees above named in accordance with the above-stated recommendation, or, in the event that such recommendation as to Palo Verde Irrigation District is superseded by an agreement between all the above allottees or by a final judicial determination, to contract with the Palo Verde Irrigation District in accordance with such agreement or determination; provided, that priorities numbered fourth and fifth shall not thereby be disturbed.

As far as reasonable diligence will permit, said water shall be delivered and ordered by the district, and as reasonably required for domestic, potable and irrigation purposes within the boundaries of the district in the Imperial and Coachella Valleys in California. This contract is for permanent water services but is subject to the condition that Hoover Dam and Boulder Canyon Reservoir shall be used, first, for river regulation, improvement of navigation, and flood control; second, for irrigation and domestic uses and satisfaction of perfected rights in pursuance of Article VIII of the Colorado River compact; and, third, for power. This contract is made upon the express condition and with the express covenant that the district and the United States shall observe and be subject to and controlled by said Colorado River compact in the construction, management, and operation of Hoover Dam, Imperial Dam, All-American Canal, and other works, and the storage, diversion, delivery, and use of water for the generation of power, irrigation, and other purposes. The United States reserves the right to temporarily discontinue or reduce the amount
of water to be delivered for the purpose of investigation, inspection, maintenance, repairs, replacements, or installation of equipment and/or machinery at Hoover Dam, but as far as feasible the United States will give the district reasonable notice in advance of such temporary discontinuance or reduction. The United States, its officers, agents, and employees shall not be liable for damages when, for any reason whatsoever, suspension or reductions in delivery of water occur. This contract is without prejudice to any other or additional rights which the district may have not inconsistent with the provisions of this article, or may hereafter acquire in or to the waters of the Colorado River. Nothing in this contract shall be construed to prevent the district from diverting water to the above the quantity apportioned to it hereunder is available, and no conveyance of Imperial and/or Laguna Dam shall be permitted to interfere with such diversion by the district, but, except as provided in article twenty-one (21), water shall not be diverted, transported, or carried by or through the works to be constructed hereunder for any agency other than the district, except by written consent of the Secretary.

**MEASUREMENT OF WATER**

Art. 18. The water which the district receives under the apportionment as provided in article seventeen (17) hereof shall be measured at such point or points on the canal as may be designated by the Secretary. Measuring and controlling devices shall be furnished and installed by the United States as a part of the work provided for herein, but shall be operated and maintained by and at the expense of the district. They shall be and remain at all times under the complete control of the United States, whose authorized representatives may at all times have access to them over the lands and rights of way of the district.

**RECORD OF WATER DIVERTED**

Art. 19. The district shall make full and complete written reports as directed by the Secretary, on forms to be supplied by the United States, of all water diverted from the Colorado River, and the disposition thereof. The records and data from which such reports are made shall be accessible to the United States on demand of the Secretary.

**REFUSAL OF WATER IN CASE OF DEFAULT**

Art. 20. The United States reserves the right to refuse to deliver water to the district in the event of default for a period of more than twelve (12) months in any payment due the United States under this contract, or, in the discretion of the Secretary, to reduce deliveries in such proportion as the amount in default by the district bears to the total amount due. It is understood, however, that the provisions of this article shall not relieve the district of its obligation to divert, transport, and deliver water for the use and benefit of the Yuma project as herein elsewhere provided, nor shall it relieve the district of its obligation hereunder to divert, transport, and deliver water for the use and benefit of other agencies with whom the United States may contract for the diversion, transportation, and delivery of water through or by the works to be constructed under the terms hereof. The United States further reserves the right to forthwith assume control of all or any part of the works to be constructed hereunder and to care for, operate, and maintain the same, so long as the Secretary deems necessary or advisable, if, in his opinion, which shall be final and binding upon the parties hereto, the district does not carry out the terms and conditions of this contract to their full extent and meaning. In such event, the district’s pro rata share of the actual cost of such care, operation, and maintenance by the United States shall be repaid to the United States, plus fifteen per cent (15%) to cover overhead and general expense, on March 1 of each year immediately succeeding the calendar year during which the works to be constructed hereunder are operated and maintained by the United States. Nothing herein contained shall relieve the district of the obligation to pay in any event all installments and penalties provided in this contract.

**USE OF WORKS BY THE UNITED STATES AND OTHERS**

Art. 21. The United States also reserves the right to, and the district agrees that it may, at any time prior to the transfer of constructed works to the district for operation and maintenance, increase the capacity of the said works and contract for such increased capacity with other agencies for the delivery of water for use in the United States; provided, however, that such other agencies shall not thereby be entitled to participate in power development on said All-American Canal, except at points where and to the extent that the water diverted and/or carried for them contributes to the development of power. In the event other agencies thus contract with the United States, each of such agencies shall assume such proportion of the total cost of said works to be used jointly by such agency and the district, including Laguna Dam, as the Secretary may determine to be equitable and just, but not less than the proportion that the capacity provided for such agency in such works bears to the total capacity thereof (except in that part thereof above Syphon Drop including Laguna Dam, in which part the proportion which such other agency shall assume shall not be less than the proportion that the capacity provided for such agency therein bears to the total capacity thereof less the capacity to be provided hereunder without cost to and for the Yuma project) and the district’s financial obligations under this contract shall be adjusted accordingly. In no event shall construction costs chargeable to the district be increased by reason of additional capacity being provided for any such agency or agencies or contract or contracts having been made with same. Any such agency thus contracting shall also be required to reimburse the district in such amounts and at such times as the Secretary may determine to be equitable and just for payments theretofore made by the district for the right to use Laguna Dam.

**TITLE TO REMAIN IN THE UNITED STATES**

Art. 22. Title to the aforesaid Imperial Dam and All-American Canal to be constructed by the United States under the terms and conditions hereof shall be and remain in the United States notwithstanding transfer of the care, operation, and maintenance thereof to the district; provided, however, that the Secretary may, in his
discretion, when repayments to the United States of all moneys advanced shall have been made, transfer the title to said main canal and appurtenant structures, except the diversion dam and the main canal and appurtenant structures, down to and including Syphon Drop, to the district or other agencies of the United States having a beneficial interest therein in proportion to their respective capital investments under such form or organization as may be acceptable to him.

ASSessment of public land

Art. 23. The following lands are hereby designated as subject to the provisions of the act of August 11, 1916 (39 Stat. 506), and the act of May 15, 1922 (42 Stat. 541):

(a) All unentered public lands and entered lands for which no final certificate has been issued, situate within the district at the date aforesaid; and when included within the district, unentered public lands and entered lands for which no final certificate has been issued, hereafter to be included within the district pursuant to this contract, all described in a statement marked Exhibit B attached hereto and by reference thereto made a part hereof; and

(b) Unentered public lands and entered lands for which no final certificate has been issued not so described but hereafter annexed to the district, upon the Secretary's consenting, in the case of such lands hereafter annexed to the district, to assessment hereunder of such added lands, which consent will be requested by resolution of the board of directors of the district and will be manifested by letter filed with the district, a copy of such letter to be filed also with the General Land Office, and a copy with the proper local land office.

Within a reasonable time, to be determined by the Secretary, from the date water is available for and can be delivered to any public lands within the boundaries of the district, such lands shall be opened to entry.

RULES AND REGULATIONS

Art. 24. There is reserved to the Secretary the right to prescribe and enforce rules and regulations not inconsistent with this contract, governing the diversion and delivery of water hereunder to the district and to other contractors. Such rules and regulations may be modified, revised, and/or extended from time to time after notice to the district and opportunity for it to be heard, as may be deemed proper, necessary or desirable by the Secretary to carry out the true intent and meaning of the law and of this contract, or amendments thereof, or to protect the interests of the United States. The district hereby agrees that in the operation and maintenance of the Imperial Dam and All-American Canal, all such rules and regulations will be fully adhered to.

INSPECTION BY THE UNITED STATES

Art. 25. The Secretary may cause to be made from time to time a reasonable inspection of the works constructed by the United States under the terms hereof to the end that he may ascertain whether the terms of this contract are being satisfactorily executed by the district. The actual expense of such inspection in any calendar year as found by the Secretary, shall be paid by the district to the United States on March 1 each year immediately following the year in which such

Secretary. The Secretary or his representative shall at all times have the right of ingress to and egress from all works of the district for the purpose of inspection, repairs, and maintenance of works of the United States, and for all other purposes.

ACCESS TO BOOKS AND RECORDS

Art. 26. The officials or designated representatives of the district shall have full and free access to the books and records of the United States, so far as they relate to the matters covered by this contract, with the right at any time during office hours to make copies of and from the same; and the Secretary shall have the same right in respect of the books and records of the district.

DISPUTES OR DISAGREEMENTS

Art. 27. Disputes or disagreements as to the interpretation or performance of the provisions of this contract, except as otherwise provided herein, shall be determined either by arbitration or court proceedings, the Secretary being authorized to act for the United States in such proceedings. Whenever a controversy arises out of this contract, and the parties hereto agree to submit the matter to arbitration, the district shall name one arbitrator and the Secretary shall name one arbitrator, and the two arbitrators thus chosen shall select three other arbitrators, but in the event of their failure to name all or any of the three arbitrators, within thirty (30) days after their first meeting, such arbitrators not so elected, shall be named by the senior judge of the United States Circuit Court of Appeals for the Ninth Circuit. The decision of any three of such arbitrators shall be a valid and binding award of the arbitrators.

INTEREST AND PENALTIES

Art. 28. No interest shall be charged on any installments of charges due from the district hereunder except that on all such installments or any part thereof, which may remain unpaid by the district to the United States after the same become due, there shall be added to the amount unpaid a penalty of one-half of one per cent (1/2%) and a like penalty of one-half of one per cent (1/2%) of the amount unpaid shall be added on the first day of each month thereafter as such default shall continue.

AGREEMENT SUBJECT TO COLORADO RIVER COMPACT

Art. 29. This contract is made upon the express condition and with the express understanding that all rights based upon this contract shall be subject to and controlled by the Colorado River compact, being the compact or agreement signed at Santa Fe, N. Mex., November 24, 1922, pursuant to act of Congress approved August 19, 1921, entitled "An act to permit a compact or agreement between the States of Arizona, California, Colorado, Nevada, New Mexico, Utah, and Wyoming, respecting the disposition and apportionment of the waters of the Colorado River, and for other purposes," which compact was approved by the Boulder Canyon project.
ART. 30. Except as provided by the Boulder Canyon project act, the reclamation law shall govern the construction, operation, and maintenance of the works to be constructed hereunder.

**CONTRACT TO BE AUTHORIZED BY ELECTION AND CONFIRMED BY COURT**

**ART. 31.** The execution of this contract by the district shall be authorized by the qualified electors of the district at an election held for that purpose. Thereafter, without delay, the district shall prosecute to judgment proceedings in court for a judicial confirmation of the authorization and validity of this contract. The United States shall not be in any manner bound under the terms and conditions of this contract unless and until a confirmatory final judgment in such proceedings shall have been rendered, including final decision, or pending appeal, if any. The district, or pending appeal, if any, for appeal be paid. The district shall pay the costs and expenses of the suit, and the United States shall furnish, on its own expense, copies of all proceedings relating to the solicitation of this contract and the confirmation proceedings in connection therewith, which said copies shall be properly certified by a clerk of the court in which confirmatory judgment is obtained.

**METHOD OF DETERMINING NET POWER PROCEEDS**

**ART. 32.** In determining the net proceeds for each calendar year from any power development on the All-American Canal, to be paid into the Colorado River Dam fund as provided in article fourteen (14) hereof, there shall be taken into consideration all items of cost of production of power, including but not necessarily limited to amortization of and interest on capital investment in power development, replacements, improvements, and operation and maintenance of such power, and any other proper factors of cost not here expressly enumerated may be taken into account in determining the net proceeds.

**CONTINGENT UPON APPROPRIATIONS**

**ART. 33.** This contract is subject to appropriations being made by Congress from year to year of moneys sufficient to do the work provided for herein, and to there being sufficient moneys available in the Colorado River Dam fund to permit allotments to be made for the performance of such work. No liability shall accrue against the United States, its officers, agents, or employees, by reason of insufficient moneys not being so appropriated nor on account of there not being sufficient moneys in the Colorado River Dam fund to permit of said allotments. If more than three years expire after this contract becomes effective and before appropriations are available to permit the United States to make expenditures hereunder, the district may, at its option, upon giving sixty (60) days written notice to the Secretary, cancel this contract. Such option shall be exercised by vote of the electors of the district with the same formality as required for the authorization of contracts with the United States.

**ART. 34.** (a) In this article where the words "area to be included" are used such words shall be understood to mean those certain areas shown on Exhibit A and bounded by the lines indicated thereon as "Boundary of additional areas in proposed enlarged Imperial Irrigation District."

(b) The district agrees to change its boundaries within a reasonable time after the execution of this contract, in the manner provided by law, so as to include within the district the public lands of the United States in Imperial County lying south of the northerly boundary line of township eleven (11) south of the San Bernardino base line, and within the area to be included.

(c) The district further agrees to change its boundaries, if lawful petition or petitions therefor be presented to its board of directors prior to the first day of January, 1940, so as to include within the district any privately owned and/or entered lands for which final certification has not been issued, in Imperial County, lying south of the northerly boundary line of township eleven (11) south of the San Bernardino base line, and within the area to be included.

(d) The district further agrees to change its boundaries, in the manner provided by law, so as to include within the district the lands lying north of the northerly boundary line of township eleven (11) south of the San Bernardino base line, and within the area to be included, if lawful petition or petitions sufficient in all respects for such inclusion be presented to its board of directors at any time prior to the expiration of thirty days from and after the date on which a confirmatory judgment, as required by article 31 hereof, declaring this contract in all respects valid and duly authorized, shall become final; provided, however, that the district shall not change its boundaries so as to include any of said lands lying north of the northerly boundary line of said township eleven (11) south, unless the said petition or petitions so filed shall be sufficient to lawfully include the aggregate of not less than ninety (90%) per centum (the areas to be approved by the Secretary) of the said lands, exclusive of the Dos Palmas area and exclusive of Indian lands and public lands of the United States. Within a reasonable time after the inclusion of such lands pursuant to said petition or petitions the district further agrees to change its boundaries, in the manner provided by law, so as to also include within the district the public lands of the United States within the area to be included and lying north of the northerly boundary line of said township eleven (11) south.

(e) Whenever any of the lands within the area to be included are included within the district the inclusion thereof shall be made upon conditions substantially as hereinafter contained (filling blank spaces with appropriate unit names as may be required and other proper designations), and the Secretary, on behalf of the United States, hereby consents to such inclusion and conditions, which conditions are as follows:

**CONDITION NO. 1.—Definitions**

In the following conditions, the word "district" shall mean Imperial Irrigation District; the word "board" shall mean the board of directors of the Imperial Irrigation District; the word "All-American Canal Contract" shall mean that certain contract between the United States of America by Ray Lyman Wilbur, Secretary of the Interior, and Imperial Irrigation District, dated

...
entitled “Contract for construction of diversion dam, main canal, and appurtenant structures and for delivery of water,” authorized by the electors of Imperial Irrigation District at an election held.

The words “distribution system” shall mean the secondary main canal and lateral system or systems, including all canals, pipe lines, structures, pumping plants, machinery, and incidental works necessary or convenient under the rules and regulations of the Imperial Irrigation District for delivery of water for irrigation and domestic purposes from the All-American Canal, as the same is shown on Exhibit A attached to and made a part of said All-American Canal contract, to lands in—unit as such unit is hereinafter defined.

CONDITION No. 2.—Division into units.

For the purposes of these conditions and in compliance with the terms of the All-American Canal contract, the districts shall be divided into units, commencing with Imperial unit, which unit shall comprise the lands within the district as of July 1, 1931, and such other lands as may at any time or from time to time be added thereto in the discretion of the board.

NAME

(NAME)

(Here shall follow description or other designation of the unit involved as provided by article 10 (f) of the All-American Canal contract)

CONDITION No. 3.—All-American Canal contract.

The lands within—unit shall be, in all respects, bound by all the terms and conditions of the All-American Canal contract and particularly by article 10 thereof, and shall pay, as a unit obligation, the annual amounts and in the manner and at the times prescribed for in said contract, as the board may determine; provided, that said lands in—NAME

UNIT shall pay to the district, as a unit obligation, that portion of the total sum paid by the district to the United States under that certain contract of October 23, 1918, between the United States and the district for the right to connect with Laguna Dam, prior to the payment of the first installment on said contract of October 23, 1918, for which said lands shall be assessed, that the total area of—NAME

UNIT bears to the total area of the district at the rate of—NAME

Late notice of completion of all work provided for in the All-American Canal contract shall be given, pursuant to article 12 thereof, to the district. Said sum shall be divided into ten annual installments, as nearly equal as may be practicable, and paid, commencing with the calendar year next succeeding the calendar year when such notice of completion shall be so given.

CONDITION No. 4.—Distribution system.

The lands within—NAME

UNIT shall pay, as a unit obligation, the total capital cost of any distribution system which may be constructed by or under authority of the district, to serve the lands within said—NAME

UNIT or any part thereof. When said distribution system, or any part thereof, is constructed, or an obligation therefor is incurred, said lands shall pay annually such sum or sums as may be necessary to meet the then current obligation therefor, whether for principal or interest or both, or in accordance with the schedule of said system. Said system shall at all times be and remain the exclusive property of the district unless the district shall provide otherwise, in the discretion of the board. When funds for the construction of said distribution system are made available, the district shall construct or authorize the same to be constructed as the board may determine.

CONDITION No. 5.—Pumping costs.

The board shall provide by rule for the payment by the lands served of the cost of pumping water for delivery to the lands, through the distribution system.
anything in this contract to the contrary notwithstanding, and the
 capacities in the works to be constructed under this contract shall be
 reduced accordingly.

(a) Nothing contained in this contract shall impair any right or
 remedy of any person entitled to object or protest against the inclusion
 within the district of any particular tract or tracts of land, or the
 conditions imposed by the board of directors of the district on the
 inclusion of any particular tract or tracts, nor impair the power of
 the board to hear and determine any such objections or protests, but
 if in the opinion of the Secretary such determination by the board
 substantially impairs the interests of, or security otherwise available
 to, the United States under this contract, then in such event the
 United States shall be under no obligation to proceed further under
 this contract. In the event any petition or petitions be filed for the
 inclusion within the district of any lands within the area to be included
 and, after the conditions set out in subarticle (e) of this article or
 conditions less burdensome, are imposed thereon, a sufficient majority
 statement or statements in writing be filed objecting to the inclusion
 of such lands with the conditions imposed thereon, so that the board of
 directors is required to dismiss such petition or petitions, then it
 shall be regarded as if such petition or petitions had not been filed.

PRIORITY OF CLAIMS OF THE UNITED STATES

Art. 36. Claims of the United States arising out of this contract
shall have priority over all others, secured and unsecured.

RIGHTS RESERVED UNDER SECTION 3737 REVISED STATUTES

Art. 36. All rights of action for breach of any of the provisions of
this contract are reserved to the United States as provided in section
3737 of the Revised Statutes of the United States.

REMEDIES UNDER CONTRACT NOT EXCLUSIVE

Art. 37. Nothing contained in this contract shall be construed as
in any manner abridging, limiting, or depriving the United States or
the district of any means of enforcing any remedy either at law or in
equity for the breach of any of the provisions hereof which it would
otherwise have. The waiver of a breach of any of the provisions of
this contract shall not be deemed to be a waiver of any other provision
hereof or of a subsequent breach of such provision.

INTEREST IN CONTRACT NOT TRANSFERABLE

Art. 38. No interest in this contract is transferable by the district
to any other party, and any such attempted transfer shall cause this
contract to become subject to annulment at the option of the United
States.

MEMBER OF CONGRESS CLAUSE

Art. 39. No Member of or Delegate to Congress or Resident
Commissioner shall be admitted to any share or part of this contract
or to any benefit that may arise therefrom. Nothing, however,
herein contained shall be construed to extend to this contract if made
[ITEM 16]

BOULDER CANYON PROJECT

AGREEMENT OF COMPROMISE

IMPERIAL IRRIGATION DISTRICT

AND

COACHELLA VALLEY COUNTY WATER DISTRICT

February 14, 1934

SEC. 1. THIS AGREEMENT, Made the 14th day of February, 1934, by and between IMPERIAL IRRIGATION DISTRICT, an irrigation district organized and existing under and by virtue of the California Irrigation District Act of the State of California and acts amendatory thereof or supplementary thereto, with its principal office at El Centro, Imperial County, California, said District being hereinafter sometimes styled "Imperial District", and COACHELLA VALLEY COUNTY WATER DISTRICT, a County Water District organized and existing under and by virtue of the County Water District Act of the State of California and acts amendatory thereof or supplementary thereto, and having its office at Coachella, Riverside County, California, said District being hereinafter sometimes styled "Coachella District", 
WITNESSETH:

RECITALS

SEC. 2. THAT, WHEREAS, Pursuant to the terms of the Boulder Canyon Project Act, approved December 21, 1928 (45 Stat. 1057), the Secretary of the Interior is authorized to construct a main canal and appurtenant structures located entirely within the United States, connecting Laguna Dam or other suitable diversion dam, which said Secretary is authorized to construct, with Imperial and Coachella Valleys in California; and

SEC. 3. WHEREAS, The Secretary of the Interior has determined upon engineering and economic considerations to construct a new diversion dam on the Colorado River approximately four and one-half miles above Laguna Dam, which new diversion dam has heretofore been and is designated Imperial Dam; and

SEC. 4. WHEREAS, Pursuant to the Boulder Canyon Project Act, a contract, dated December 1, 1932, hereinafter styled “Imperial Contract”, has heretofore been executed between the United States and Imperial District for the construction of said Imperial Dam, main canal and appurtenant structures, which said main canal and appurtenant structures are hereinafter styled “All-American Canal”, and for the re-payment of the cost thereof as provided by law; and

SEC. 5. WHEREAS, By said Imperial Contract, certain lands in Coachella Valley, and within Coachella District and lands adjacent to said District may, by petition, be included within the boundaries of Imperial District, and if said lands are not so included, then the works and capacity to serve said lands shall not be constructed under said contract; and

SEC. 6. WHEREAS, Said Coachella District through its Board of Directors has determined that said lands will not become a part of Imperial District pursuant to said contract, and that Coachella District desires to obtain a contract, hereinafter styled “Coachella Contract”, with the United States, separately from Imperial District, for capacity in said Imperial Dam and All-American Canal to be provided for the benefit of said Coachella District, in addition to the capacity therein provided for Imperial District, and to pay the proper cost of such capacity; and

SEC. 7. WHEREAS, Under date of August 18, 1931, an agreement was made between certain interested agencies in California, including the parties to this agreement, for the apportionment of the Colorado River water available for use within the State of California under the Colorado River Compact and the Boulder Canyon Project Act, a portion of which agreement is set out in Article 17 of said Imperial Contract as being a recommendation of the Chief of the Division of Water Resources of the State of California; and

SEC. 8. WHEREAS, Water for irrigation and domestic uses in the areas to be served under or from the All-American Canal in Imperial and Coachella Valleys will be supplied pursuant to the third and sixth priorities of said recommenda-
certain action entitled: "In the Matter of the validation of a Contract Dated Dec. 1, 1932, Entitled 'Contract for Construction of Diversion Dam, Main Canal and Appurtenant Structures, and for Delivery of Water,' between the United States of America and Imperial Irrigation District. John L. Dubois, et al., Plaintiffs and Respondents, vs. All Persons, Defendants; Coachella Valley County Water District et al., Defendants and Appellants," being L. A. No. 14487, and this agreement shall not become effective for any purpose unless and until said appeal is so dismissed on behalf of all of said parties within ten (10) days from the execution hereof. Coachella District will actively assist in bringing said action to an early and final conclusion to the end that the present judgment be sustained.

GENERAL PROVISIONS

Sec. 14. The provisions of this agreement hereinafter set forth shall be effective and binding upon the parties hereto only in the event that the Coachella Contract above mentioned is executed by and between the United States and said Coachella District prior to the transfer of constructed works to Imperial District for operation and maintenance, as provided by said Imperial Contract, and such Coachella Contract prior to such transfer or thereafter becomes binding upon the parties thereto, pursuant to law. After this agreement becomes effective, it, together with the lease herein provided for, shall terminate in the event Coachella District shall be relieved of all obligations under the Coachella Contract, by reason of failure of the United States to complete the works to be constructed thereunder.

WATER

Sec. 15. As a full and complete compromise and settlement of the controversy existing between the parties hereto as to the extent and priority of their respective rights and claims to the use of the waters of the Colorado River, it is agreed, as between said parties, that:

Imperial Irrigation District shall have the prior right for irrigation and potable purposes only, and exclusively for use in the Imperial Service Area, as hereinafter defined, or hereunder modified, to all waters apportioned to said Imperial Irrigation District and other lands under or that will be served from the All-American Canal in Imperial and Coachella Valleys, as provided in said third and sixth priorities. The use of water for generation of electric energy shall be, in all respects, secondary and subervient to all requirements of said two districts for irrigation and potable purposes as above limited.

As hereinafore used, the term "Imperial Service Area" shall comprise all lands within the boundaries of Imperial Irrigation District as said District was constituted on June 23, 1931, and all lands in Imperial and San Diego Counties, California, shown on map marked Exhibit "A", attached to said Imperial contract, and included within hatched border lines indicated on said map by legend as "Boundary of Additional Areas in Proposed Enlarged Imperial Irrigation District", other than (a) such of said lands as are labeled "Dos Palmas Area" and (b) such of said lands as lie West of Salton Sea and North of the Northerly boundary line of Township 11, South of the San Bernardino Base Line. The term "Coachella Service Area" shall comprise all lands described on statements hereto attached and marked "Exhibits" "B", "C", "D" and "E", respectively, being approximately, but not exactly, the lands within said hatched border lines shown on said Exhibit "A", other than those included in said Imperial Service Area. Upon application of either district and with the written consent of the Secretary of the Interior, the boundaries of the service area which such district is entitled hereunder to serve may at any time or from time to time be changed, but may not be so changed as, in the aggregate, to add more than 5000 acres to, or to subtract more than 5000 acres from such service area, as herein defined, without the written consent of the district entitled hereunder to serve the other service area. Coachella District shall not participate in any revenues received by Imperial District for diverting, carrying and delivering at or near Pilot Knob, water for irrigation or domestic use for any person of agency other than the parties hereto, and Coachella District shall perform no such service at or near Pilot Knob.

APPLICATIONS TO APPROPRIATE WATER

Sec. 16. The parties hereto agree that their respective applications to appropriate water from the Colorado River for irrigation and domestic purposes heretofore filed with the Division of Water Resources of the State of California shall be deemed amended to conform with the foregoing provisions of this agreement and stipulate that permits be issued to them, respectively, in accordance herewith and agree to file with said Division all necessary papers and stipulations to that end. Except as between the parties hereto the provisions of this agreement shall not affect nor impair any rights of either party to the waters of the Colorado River.
HOOVER DAM CONTRACTS

LEASE OR POWER RIGHTS

Sec. 17. As a compromise and settlement of the controversy existing between the parties hereto as to all power possibilities, power rights, power resources and power privileges upon the whole of said All-American Canal in both Imperial and Riverside Counties, now or hereafter held, owned, or possessed by said parties, or either of them, including all those at or near Pilot Knob, which said power possibilities, power rights, power resources and power privileges are hereinafter styled "power rights", and to combine and coordinate all of said power rights as a unified project so as to produce the maximum benefits to the parties hereto and to the United States, it is agreed that the parties hereto will, within a reasonable time after the execution of said Coachella Contract, execute a good and sufficient lease agreement, wherein in Coachella District shall demesne to Imperial District all of said power rights which the Coachella District may now have or hereafter obtain. Said lease, among other reasonable provisions, shall provide:

(a) That the term of said lease shall commence with the date thereof and terminate on January 1, 2033; provided, that should the term herein or in said lease extend exceed that permitted by law at the date of said lease, then said term shall be deemed reduced to the longest period permitted by law;

(b) That said lease shall vest in Imperial District the entire and exclusive operation, management, development and control of all said power rights and the use, sale and control of power produced therefrom;

(c) That subject to the conditions hereinafter contained, Imperial District shall pay to March first of each year, as rental for said demised power rights, eight per cent of the net proceeds, as defined in sub-section (f) hereof, received by Imperial District during the preceding calendar year from all said power rights held, owned or possessed by both parties hereto and from all power works and power facilities by or in connection with which Imperial District utilizes said power rights;

(d) That said rentals shall be paid by Imperial District to the United States and credited on the Coachella Contract until Coachella District's obligations to the United States under said contract are fully paid, and thereafter Imperial District shall pay said rentals to Coachella District;

(e) That no rentals shall be due or payable unless and until capacity in the All-American Canal shall have been provided for Coachella District down to Pilot Knob;

(f) That in determining said net proceeds, as between the parties hereto, there shall be taken into consideration all items of cost of production and disposal of power, including, but not necessarily limited to amortization of and interest on capital investment for power purposes, improvements, operation and maintenance, and depreciation, and any other proper factor of cost not herein expressly enumerated;

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(g) That the determination of said net proceeds for the purpose of ascertaining rentals payable under said lease shall be made without reference to the fact that as to Imperial District said rentals will constitute a part of the cost of doing business;

(h) That on March first of each year Imperial District shall furnish to Coachella District a statement of account showing the computation of said rental;

(i) That Coachella District shall not be required to contribute in any manner to the cost of construction, operation or maintenance of any power works or facilities on or in connection with the All-American Canal, except indirectly, as said items may be taken into consideration in determining rentals to be paid under said lease;

(j) That said lease shall terminate upon Coachella District being relieved of obligations as provided in Section 14 hereof and/or at the option of Coachella District, in the event of default in any payment of rentals by Imperial District for a period of two years;

(k) That any overdue rental shall bear interest at the rate of one-half of one per cent per month until paid;

(l) That when Imperial District is ready to undertake construction of facilities to serve electrical energy (herein designed "power") in Coachella Valley, Coachella District shall obtain for Imperial District signed contracts or applications for power as provided in Section 18 hereof, and be otherwise subject to the provisions of said Section 18;

(m) That when Imperial District is ready to serve power from the All-American Canal in Coachella Valley, then, if and while said lease is in effect, Imperial District will furnish such power in Coachella District at the rates and upon the conditions provided in Section 19 hereof;

(n) That Coachella District shall, by its officials or designated representatives, have the right of ingress to and egress from all power works and facilities of Imperial District for the purpose of inspection thereof, and full and free access to and the right during office hours to inspect and copy all books and records of Imperial District relating to its power operations;

(o) That the interest of Imperial District under said lease shall not, nor shall any part thereof nor interest therein, be assigned, nor shall Imperial District sublet any part of nor interest in said demised power rights without the written consent of Coachella District;

(p) That at the termination of said lease the rights and privileges of the parties thereto shall be segregated and/or adjusted as may be equitable and just, having in view the business, interests and investments of the parties and their respective legal and equitable rights in said power rights, works and facilities on or in connection with the All-American Canal;

(q) That in the event the parties cannot agree upon such segregation or adjustment, then the same shall be made by a board of arbitration, consisting
of five persons, one to be selected by Imperial District, one by Coachella District, and three by the Secretary of the Interior and the decision of said board of arbitration shall be final and binding upon the parties to said lease;

(r) That nothing contained in said lease shall be construed as in any manner abridging, limiting, or depriving either of the parties thereto of any means of enforcing any remedy, either at law or in equity, for the breach of any of the provisions of said lease which it would otherwise have;

(s) That the waiver of a breach of any of the provisions of said lease shall not be deemed to be a waiver of any other provision thereof or of a subsequent breach of such provision.

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SEC. 18. When the lease provided for in Section 17 hereof has been executed and Imperial District is ready to undertake construction of facilities to serve electrical energy, (herein styled "power") in Coachella Valley it shall notify Coachella District of said fact in writing and it shall thereupon be the duty of Coachella District to obtain for Imperial District, within six months after service of such notice, contracts or applications for power signed by consumers using at the time of service of such notice not less than eighty per cent of the power load then being consumed in the Coachella Service Area. Such contracts or applications shall be in such form and substance as reasonably required by Imperial District and shall among other things bind the consumer to take from Imperial District all power that he may require in Coachella District for a period of three years. In the event of disagreement between the parties as to whether or not Coachella District has complied with the foregoing provisions of this section on its part to be complied with, then the Secretary of the Interior may, at the written request of either party, determine said fact and notify the parties hereto of such determination in writing, and such determination shall be final and binding upon the parties hereto. Notwithstanding anything herein or in said lease contained, there shall be no obligations on the part of the Imperial District for rentals under said lease during the time, if any, after six months period that said signed contracts or applications for said eighty per cent of power load have not been so

POWER RATES

SEC. 19. When the lease provided for in Section 17 hereof has been executed and Imperial District is ready to serve power from the All-American Canal in Coachella Valley then, and while said lease remains in effect, Imperial District will furnish such power in Coachella District upon the following terms:

A. To Coachella District, for use by itself for project purposes within said

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Coachella Service area as such project purposes are hereinafter defined, at rates in no case exceeding the cost of power delivered in Coachella Valley, plus fifteen per cent, and in no event at rates higher than are charged by Imperial District to itself for like uses with such additional charges as may be necessary to offset difference in costs of transmitting power as between Imperial and Coachella Valleys. Subject to the foregoing provisions, Coachella District agrees that, for a period of five years from and after the service of the notice provided for in Section 18 hereof said Coachella District will purchase from Imperial District and pay for all power Coachella District may require for project purposes within the Coachella Service Area, and for which Imperial District has sufficient facilities and is prepared to serve. Imperial District shall not be required to furnish power to Coachella District for project purposes at points where Imperial District does not then have sufficient facilities for such power service.

"Project Purposes" as used in this section shall be understood to mean construction, operation and maintenance of Coachella District's irrigation and drainage system within the Coachella Service Area, where such construction, operation, or maintenance is of a general public nature and not individual or private in character.

B. To all consumers within Coachella District, other than to Coachella District for project purposes, at no higher rates than those charged, and under the same conditions and regulations as those prescribed, by Imperial District for like service to consumers within Imperial District with such additional charges as may be necessary to offset difference in costs of transmitting power as between Imperial and Coachella Valleys. In no event shall such rates to such consumers exceed seventy-five per cent of the rates paid for like service by individual consumers in Coachella District on January 1, 1934, based upon the purchasing power of the dollar on said date. Imperial District shall make such further reduction in rates to such consumers as may be necessary to meet competitive rates for like service of any public utility, at the time authorized by the Railroad Commission of the State of California, or other authority succeeding to its functions, and able to serve such consumers, but in no event shall Imperial District be required to charge rates that will return less than the cost of service.

POWER PERMITS

SEC. 20. The parties hereto agree to cooperate to the end that all necessary and proper permits and licenses to appropriate water for power purposes and construct power facilities may be obtained from the Division of Water Resources of the State of California and/or Federal Power Commission as may be authorized by law and hereby stipulate that such permits and licenses issue to the parties hereto, as follows, to-wit:
1. To Imperial District, as to all such permits and licenses on the portion of the All-American Canal shown on said Exhibit "A" and marked "Main (All American) Canal to Imperial Valley" lying west of the southerly end of the "Main (All American) Canal to Coachella Valley" as same is shown on said Exhibit "A";

2. The Coachella District, as to all such permits and licenses on the portion of the All-American Canal shown on said Exhibit "A" and marked "Main (All American) Canal to Coachella Valley" lying North of the Northernly boundary line of Township 11, South of the San Bernardino Base Line;

3. To Imperial District and Coachella District, as their respective privileges to utilize power possibilities may appear from their said contracts with the United States, as to all such privileges on all portions of the Imperial Dam and All-American Canal, including Pilot Knob, not hereinafore specified.

AGREEMENT VOID IF CERTAIN LANDS INCLUDED IN IMPERIAL DISTRICT

SEC. 21. In the event lawful petition or petitions sufficient in all respects for inclusion within Imperial District of ninety per cent (90%) of the lands shown on said Exhibit "A" lying north of the northerly boundary line of Township Eleven (11), South of the San Bernardino Base Line and bounded by the lines indicated on said Exhibit "A" as "Boundary of Additional Areas in Proposed Enlarged Imperial Irrigation District", exclusive of the Dos Palmas Area and exclusive of Indian lands and public lands of the United States, shall be filed pursuant to and within the time limited by said Imperial Contract, and said lands shall be thereafter included within said Imperial District pursuant to such petition or petitions, then, as of the date of such inclusion, this agreement shall terminate and be at an end.

REMEDIES UNDER AGREEMENT NOT EXCLUSIVE

SEC. 22. Nothing contained in this agreement shall be construed as in any manner abridging, limiting, or depriving either of the parties hereto of any means of enforcing any remedy, either at law or in equity, for the breach of any of the provisions hereof which it would otherwise have. The waiver of a breach of any of the provisions of this agreement shall not be deemed to be a waiver of any other provision hereof or of a subsequent breach of such provision.

SEC. 23. This agreement shall not be interpreted nor construed so as to amend, modify or change said Imperial Contract in any particular, and no provision hereof in conflict with said Imperial Contract shall be of any force or effect. As to any provisions hereof in which the United States is interested this agreement shall be deemed to be made expressly for the benefit of the United States, as well as of the parties hereto.

SEC. 24. This agreement shall inure to and be binding upon the parties hereto, their and each of their respective successors and assigns.

In witness whereof, Said parties have executed this agreement in triplicate.
EXHIBIT "B"

DESCRIPTION OF LANDS WITHIN COACHELLA VALLEY COUNTY WATER DISTRICT AND ITS IMPROVEMENT DISTRICT NO. 1 AND WITHIN THE COACHELLA SERVICE AREA.

All that certain tract of land situate in the County of Riverside, State of California, and in the Townships (designated "T") hereinafter mentioned South, and Ranges (designated "R") hereinafter mentioned East, of the San Bernardino Base Line and Meridian, particularly described as follows, to-wit:

Beginning at the S.W. corner of the S.E.1/4 of Section 31, Township 8 South, Range 9 East, which is a point in the South boundary line of said Coachella Valley County Water District and thence along straight lines:

1. To the S.W. corner of Sec. 10, T. 8, R. 8, thence

2. To the S.W. corner of the S.E.1/4 of Sec. 33, T. 7, R. 8, thence

3. To the S.W. corner of the N.W.1/4 of said Sec. 33, thence

4. To the S.W. corner of the N.E.1/4 of Sec. 19, T. 7, R. 8, thence

5. To the S.W. corner of the N.W.1/4 of said Sec. 19, thence along the West line of said Sec. 19

6. To the N.W. corner of said Sec. 19, thence along the South line of Sec. 13, T. 7, R. 7

7. To the S.W. corner of said Sec. 13, thence along the West line of said Sec. 13

8. To the N.W. corner of said Sec. 13, thence

9. To the S.W. corner of the N.E.1/4 of Sec. 11, T. 7, R. 7, thence

10. To the S.W. corner of the N.W.1/4 of said Sec. 11, thence along the West line of said Sec. 11

11. To the N.W. corner of said Sec. 11, thence along the South line of Sec. 3 in said Township and Range

12. To the S.W. corner of said Sec. 3, thence along the West line of said Sec. 3

13. To the N.W. corner of said Sec. 3, thence along the South line of Secs. 34 and 33, T. 6 South, R. 7 East

14. To the S.W. corner of the S.E.1/4 of Sec. 33, T. 6, R. 7, thence

15. To the S.W. corner of the N.E.1/4 of Sec. 28, T. 6, R. 7, thence

16. To the S.W. corner of the N.W.1/4 of said Sec. 28, thence

17. To the S.W. corner of the S.E.1/4 of Sec. 20, T. 6, R. 7, thence

18. To the S.W. corner of the N.E.1/4 of said Sec. 20, thence

19. To the S.W. corner of the N.W.1/4 of said Sec. 20, thence

20. To the N.W. corner of the N.E.1/4 of the N.W.1/4 of said Sec. 20, thence

21. To the S.W. corner of the S.E.1/4 of Sec. 17, T. 6, R. 7, thence

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22. To the S.W. corner of the N.E.1/4 of Sec. 8, T. 6, R. 7, thence

23. To the S.W. corner of the S.E.1/4 of the N.W.1/4 of said Sec. 8, thence

24. To the S.W. corner of the N.E.1/4 of the N.W.1/4 of said Sec. 8, thence

25. To the S.W. corner of the N.W.1/4 of the N.W.1/4 of said Sec. 8, thence

26. To the N.W. corner of said Sec. 8, thence

27. To the N.W. corner of the N.E.1/4 of the N.E.1/4 of Sec. 7, T. 6, R. 7, thence

28. To the S.W. corner of the N.E.1/4 of the N.E.1/4 of said Sec. 7, thence

29. To the S.W. corner of the N.E.1/4 of the N.W.1/4 of said Sec. 7, thence

30. To the S.E. corner of the S.W.1/4 of the N.W.1/4 of said Sec. 7, thence

31. To the S.W. corner of the N.W.1/4 of said Sec. 7, thence along the West line of said Sec. 7

32. To the S.E. corner of Sec. 1, T. 6, R. 6, thence along the South line of said Sec. 1

33. To the S.W. corner of the S.E.1/4 of said Sec. 1, thence

34. To the N.W. corner of the N.E.1/4 of said Sec. 1, thence along the North line of said Sec. 1

35. To the S.W. corner of the S.E.1/4 of the S.E.1/4 of Sec. 36, T. 5, R. 6, thence

36. To the N.W. corner of the N.E.1/4 of the S.E.1/4 of said Sec. 36, thence

37. To the S.W. corner of the N.E.1/4 of Sec. 31, T. 5, R. 7, thence

38. To the S.W. corner of the N.W.1/4 of Sec. 19, T. 5, R. 7, thence

39. To the S.W. corner of the N.W.1/4 of said Sec. 19, thence

40. North along the West line of said T. 5, South to a point in the Westerly line of the right-of-way of the State Highway commonly known as "U. S. Highway 99", thence

41. Northwesterly along said Northwesterly line of said right-of-way of said Highway to the intersection of said line with the Westerly line of the E.1/2 of Sec. 19, T. 4, R. 6; thence

42. To the N.W. corner of the S.E.1/4 of Sec. 18, T. 4, R. 6, thence

43. To the N.E. corner of the S.E.1/4 of Sec. 15, T. 4, R. 6, thence

44. To the S.W. corner of the N.W.1/4 of Sec. 23, T. 4, R. 6, thence

45. To the N.E. corner of the S.E.1/4 of Sec. 24, T. 4, R. 6, thence

46. To the S.W. corner of the S.E.1/4 of Sec. 34, T. 4, R. 7, thence

47. To the N.E. corner of Sec. 3, T. 5, R. 7, thence

48. To the S.W. corner of the N.W.1/4 of the N.W.1/4 of Sec. 2, T. 5, R. 7, thence

49. To the S.E. corner of the N.E.1/4 of the N.W.1/4 of said Sec. 2, thence

50. To the S.W. corner of the N.E.1/4 of said Sec. 2, thence

51. To the S.W. corner of the S.E.1/4 of Sec. 17, T. 5, R. 8, thence

52. To the S.E. corner of Sec. 15, T. 5, R. 8, thence along the West line of said Sec. 22, T. 5, R. 8

53. To the S.W. corner of said Sec. 22, thence

54. To the S.W. corner of the S.E.1/4 of Sec. 27, T. 5, R. 8, thence

55. To the S.W. corner of the N.W.1/4 of the N.E.1/4 of Sec. 34, T. 5, R. 8, thence

56. To the S.W. corner of the N.E.1/4 of the N.E.1/4 of said Sec. 34, thence

57. To the S.W. corner of the N.E.1/4 of the S.E.1/4 of said Sec. 34, thence

58. To the S.W. corner of the N.E.1/4 of the S.E.1/4 of said Sec. 34, thence along the East line of said Sec. 34

59. To the S.E. corner of said Sec. 34, thence along the North line of said Sec. 2, T. 6, R. 8

60. To the N.E. corner of the N.W.1/4 of the N.W.1/4 of said Sec. 2, thence

61. To the S.W. corner of the N.W.1/4 of the N.W.1/4 of said Sec. 2, thence

62. To the N.E. corner of the N.W.1/4 of the S.E.1/4 of said Sec. 2, thence

63. To the S.W. corner of the N.E.1/4 of the S.E.1/4 of said Sec. 2, thence

64. To the S.E. corner of the N.W.1/4 of the S.E.1/4 of said Sec. 2, thence

65. To the N.W. corner of the N.E.1/4 of the S.E.1/4 of said Sec. 2, thence

66. To the S.W. corner of the N.E.1/4 of the S.E.1/4 of said Sec. 2, thence

67. To the S.W. corner of the N.E.1/4 of the S.E.1/4 of said Sec. 2, thence

68. To the S.W. corner of the N.E.1/4 of the S.E.1/4 of said Sec. 2, thence
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68. To the S.E. corner of the N.E. ¼ of the S.E. ¼ of said Sec. 2, thence along the East line of said Sec. 2
69. To the S.E. corner of said Sec. 2, thence
70. To the S.E. corner of Sec. 13, T. 6, R. 8, thence
71. To the S.E. corner of Sec. 3, T. 7, R. 9, thence along the South lines of Section 2 and
1 in said Township and Range
72. To the N.E. corner of the N.W. ¼ of the N.W. ¼ of Sec. 12, T. 7, R. 9, thence
73. To the S.E. corner of the N.W. ¼ of the N.W. ¼ of said Sec. 12, thence
74. To the N.E. corner of the S.E. ¼ of the N.W. ¼ of said Sec. 12, thence
75. To the S.W. corner of the N.E. ¼ of said Sec. 12, thence
76. To the N.E. corner of the S.E. ¼ of said Sec. 12, being a point on the East boundary line of said Coasella Valley County Water District, thence
77. South along said boundary line to the S.E. corner of Sec. 25, T. 7, R. 9, thence along the South lines of said Sec. 25 and of Sec. 26 in said Township and Range
78. To the S.W. corner of said Sec. 26, thence
79. To the N.E. corner of the S.E. ¼ of the S.E. ¼ of Sec. 27, T. 7, R. 9, thence
80. To the N.W. corner of the S.W. ¼ of the S.E. ¼ of said Sec. 27, thence
81. To the N.E. corner of the S.W. ¼ of said Sec. 27, thence
82. To the N.W. corner of the S.W. ¼ of said Sec. 27, thence
83. To the N.E. corner of the S.W. ¼ of the N.E. ¼ of Sec. 28, T. 7, R. 9, thence
84. To the N.W. corner of the S.W. ¼ of the N.E. ¼ of said Sec. 28, thence
85. To the N.E. corner of the N.W. ¼ of said Sec. 28, T. 7, R. 9, thence along the North lines of said Sec. 28 and of Sec. 29 in said Township and Range
86. To the N.W. corner of the N.E. ¼ of said Sec. 29, thence
87. To the S.W. corner of the N.W. ¼ of the N.E. ¼ of said Sec. 29, thence
88. To the N.W. corner of the N.E. ¼ of the N.W. ¼ of said Sec. 29, thence
89. To the S.E. corner of the S.W. ¼ of the N.W. ¼ of said Sec. 29, thence
90. To the S.W. corner of the S.W. ¼ of the N.W. ¼ of Sec. 30, T. 7, R. 9, thence
91. To the S.E. corner of the N.W. ¼ of the N.W. ¼ of said Sec. 30, thence
92. To the S.W. corner of the N.E. ¼ of the N.E. ¼ of Sec. 25, T. 7, R. 8, thence
93. To the S.W. corner of the S.E. ¼ of the N.E. ¼ of said Sec. 25, thence
94. To the S.W. corner of the N.E. ¼ of said Sec. 25, thence
95. To the S.E. corner of the N.W. ¼ of the S.W. ¼ of said Sec. 25, thence
96. To the N.E. corner of the S.W. ¼ of the S.W. ¼ of said Sec. 25, thence
97. To the S.E. corner of the S.W. ¼ of the N.W. ¼ of Sec. 36, T. 7, R. 8, thence
98. To the N.E. corner of the S.W. ¼ of said Sec. 36, thence
99. To the S.E. corner of the N.E. ¼ of the S.W. ¼ of said Sec. 36, thence
100. To the N.E. corner of the S.E. ¼ of the S.E. ¼ of said Sec. 36, thence along the East line of said Sec. 36
101. To the S.E. corner of said Sec. 36, thence
102. To the N.E. corner of the N.W. ¼ of the N.W. ¼ of Sec. 6, T. 8, R. 9, thence
103. To the N.E. corner of the S.W. ¼ of the S.W. ¼ of Sec. 7, T. 8, R. 9, thence
104. To the N.W. corner of the S.W. ¼ of the S.W. ¼ of said Sec. 7, thence along the West lines of said Sec. 7 and of Sec. 18 in said Township and Range
105. To the S.W. corner of the N.W. ¼ of the N.W. ¼ of said Sec. 18, thence
106. To the S.E. corner of the N.W. ¼ of the N.W. ¼ of said Sec. 18, thence
107. To the S.E. corner of the S.W. ¼ of the N.W. ¼ of said Sec. 18, thence
108. To the S.E. corner of the N.W. ¼ of said Sec. 18, thence
109. To the S.E. corner of the N.W. ¼ of the S.W. ¼ of said Sec. 18, thence
110. To the N.E. corner of the S.E. ¼ of the S.E. ¼ of said Sec. 18, thence along the East lines of said Sec. 18 and of Sec. 19 in said Township and Range
111. To the S.W. corner of the N.W. ¼ of the N.W. ¼ of Sec. 20, T. 8, R. 9, thence

WATER CONTRACTS

112. To the N.E. corner of the S.W. ¼ of the N.W. ¼ of said Sec. 20, thence
113. To the S.E. corner of the S.W. ¼ of the N.W. ¼ of said Sec. 20, thence
114. To the S.E. corner of the N.E. ¼ of said Sec. 20, thence
115. To the N.W. corner of the S.W. ¼ of the S.W. ¼ of Sec. 21, T. 8, R. 9, thence
116. To the N.E. corner of the S.W. ¼ of the S.W. ¼ of said Sec. 21, thence
117. To the S.E. corner of the S.W. ¼ of the S.W. ¼ of said Sec. 21, thence
118. To the N.E. corner of the N.W. ¼ of Sec. 28, T. 8, R. 9, thence
119. To the S.E. corner of the N.W. ¼ of said Sec. 28, thence
120. To the N.E. corner of the N.W. ¼ of the S.E. ¼ of said Sec. 28, thence
121. To the N.W. corner of the N.E. ¼ of the N.E. ¼ of Sec. 33, T. 8, R. 9, thence along the North line of said Sec. 33
122. To the N.E. corner of said Sec. 33, thence along the East line of said Sec. 33
123. To the S.E. corner of said Sec. 33, being a point in the Southerly boundary line of said Coasella Valley County Water District and of said County of Riverside, thence
124. West along said District and County boundary lines to the point of beginning.
EXHIBIT "C"

DESCRIPTION OF LANDS OUTSIDE COACHELLA VALLEY COUNTY WATER DISTRICT AND WITHIN THE COACHELLA SERVICE AREA, DESIGNATED THE SALTON AREA

All that certain tract of land situate in the County of Riverside, State of California, and in the Townships (designated "T") hereinafter mentioned South, and Ranges (designated "R") hereinafter mentioned East, of the San Bernardino Base Line and Meridian, particularly described as follows, to-wit:

Beginning at the N.W. corner of Section 18, Township 7 South, Range 10 East, which is a point in the East boundary line of said Coacchella Valley County Water District, and running thence along the Northerly boundary lines of said Section 18 and of Section 17 in said Township and Range:

1. To the N.E. corner of Sec. 17, T. 7, R. 10, thence
2. To the N.W. corner of Sec. 26, T. 7, R. 10, thence
3. To the S.W. corner of the S.E.1/4 of the S.E.1/4 of said Sec. 26, thence
4. To the S.W. corner of the N.W.1/4 of Sec. 36, T. 7, R. 10, thence
5. To the S.E. corner of said Sec. 36, thence
6. To the S.E. corner of Sec. 6, T. 8, R. 11, thence
7. To the S.W. corner of the S.E.1/4 of said Sec. 6, thence
8. To the S.E. corner of the N.W.1/4 of Sec. 7, T. 8, R. 11, thence
9. To the S.W. corner of the S.E.1/4 of the N.W.1/4 of said Sec. 7, thence
10. To the S.E. corner of the S.W.1/4 of the S.W.1/4 of said Sec. 7, thence
11. To the N.E. corner of the N.W.1/4 of Sec. 18, T. 8, R. 11, thence
12. To the S.E. corner of the N.W.1/4 of said Sec. 18, thence
13. Along the Southerly line of the N.W.1/4 of said Sec. 18, and the Westerly projection of said Southerly line to an intersection with the Northeasterly line of the Southern Pacific main line railroad right-of-way running through the N.E.1/4 of Sec. 13, T. 8, R. 10, thence
14. Northwesterly along said Northeasterly line of said railroad right-of-way to the intersection of said Northeasterly line with the South line of Sec. 28, T. 7, R. 10, or the Easterly projection thereof, thence along the Southerly lines of said Sec. 28 and of Sec. 29 and Sec. 30 in said Township and Range,
15. To the S.W. corner of said Sec. 30, being a point in the East boundary line of said Coachella Valley County Water District, thence
16. North along said District boundary line to the point of beginning.

EXHIBIT "D"

DESCRIPTION OF LANDS OUTSIDE COACHELLA VALLEY COUNTY WATER DISTRICT AND WITHIN THE COACHELLA SERVICE AREA, DESIGNATED THE DOS PALMAS AREA

All that certain tract of land situate in the Counties of Riverside and Imperial, State of California, and in the Townships (designated "T") hereinafter mentioned South, and Ranges (designated "R") hereinafter mentioned East, of the San Bernardino Base Line and Meridian, particularly described as follows, to-wit:

Beginning at the S.E. corner of Sec. 33, T. 8 South, R. 12 East, which is a point in the Southerly boundary line of said County of Riverside, and running thence along the Easterly boundary line of said Sec. 33:

1. To the N.E. corner of the S.E.1/4 of the S.E.1/4 of said Sec. 33, thence
2. To the N.W. corner of the S.W.1/4 of the S.E.1/4 of said Sec. 33, thence
3. To the N.E. corner of the S.W.1/4 of said Sec. 33, thence
4. To the S.W. corner of the S.E.1/4 of the N.W.1/4 of said Sec. 33, thence
5. To the N.E. corner of the S.W.1/4 of the N.W.1/4 of said Sec. 33, thence
6. To the S.W. corner of the N.W.1/4 of the N.E.1/4 of Sec. 32, T. 8, R. 12, thence
7. To the N.W. corner of the N.E.1/4 of said Sec. 32, thence
8. Along the Northerly line of said Sec. 32 to the N.W. corner of the N.E.1/4 of the N.W.1/4 of said Sec. 32, thence
9. To the N.E. corner of the S.W.1/4 of the S.W.1/4 of said Sec. 29, T. 8, R. 12, thence
10. To the N.W. corner of said S.W.1/4 of the S.W.1/4 of said Sec. 29, thence
11. Along the Westerly boundary line of said Sec. 29 to the N.W. corner of the S.W.1/4 of said Sec. 29, thence
12. To the S.W. corner of the N.E.1/4 of Sec. 30, T. 8, R. 12, thence
13. To the N.E. corner of the N.W.1/4 of said Sec. 30, thence
14. Along the Northerly boundary line of said Sec. 30 to the N.W. corner of said Sec. 30, thence
15. Along the Westerly boundary line of Sec. 19, T. 8, R. 12, to the N.W. corner of said Sec. 19, thence
16. Along the Southerly boundary line of Sec. 13, T. 8, R. 11, to the S.W. corner of the S.E.1/4 of the S.E.1/4 of said Sec. 13, thence
17. To the N.W. corner of the S.E.1/4 of the N.E.1/4 of Sec. 12, T. 8, R. 11, thence
18. Along the Southerly boundary line of said Sec. 12, R. 11, to the S.E. corner of the S.E.1/4 of the N.E.1/4 of said Sec. 12, thence.
HOOVER DAM CONTRACTS

18. To the N.E. corner of the S.E.1/4 of the N.E.1/4 of Sec. 7, T. 8, R. 12, thence
19. Along the Easterly boundary line of said Sec. 7 to the S.E. corner of said Sec. 7, thence
20. To the S.E. corner of Sec. 17, T. 8, R. 12, thence
21. Along the Westerly boundary line of Sec. 21, T. 8, R. 12, to the S.W. corner of the N.W.1/4 of said Section, thence
22. To the N.E. corner of the S.W.1/4 of said Sec. 21, thence
23. To the N.W. corner of the S.W.1/4 of the S.E.1/4 of said Sec. 21, thence
24. To the N.E. corner of the S.E.1/4 of the S.E.1/4 of said Sec. 21, thence
25. Along the Easterly boundary line of said Sec. 21 to the S.E. corner of said Sec. 21, thence
26. Along the Northerly boundary line of Sec. 27, T. 8, R. 12, to the N.E. corner of the N.W.1/4 of said Sec. 27, thence
27. To the S.E. corner of Sec. 26, T. 8, R. 12, thence
28. Along a straight line between the N.W. corner and the S.E. corner of Sec. 36, T. 8, R. 12, to a point where said straight line intersects a projection Northerly of the East line of Sec. 2, T. 9, R. 12, thence
29. Along said last-named projected line and the East line of said Sec. 2 to the S.E. corner of the N.E.1/4 of said Sec. 2, thence
30. To the S.W. corner of the N.E.1/4 of said Sec. 2, thence
31. To the S.E. corner of the S.W.1/4 of said Sec. 2, thence
32. Along the Southerly boundary line of said Sec. 2 to S.W. corner of the S.E.1/4 of the S.W.1/4 of said Sec. 2, thence
33. To the S.E. corner of the N.W.1/4 of the N.W.1/4 of Sec. 11, T. 9, R. 12, thence
34. To the S.W. corner of the N.W.1/4 of the N.W.1/4 of Sec. 10, T. 9, R. 12, thence
35. Along the West line of Sec. 10 to the N.W. corner of said Sec. 10, thence
36. Along the South line of Sec. 4, T. 9, R. 12, to the S.W. corner of the S.E.1/4 of the S.E.1/4 of said Sec. 4, thence
37. To the N.W. corner of the S.E.1/4 of the S.E.1/4 of said Sec. 4, thence
38. To the S.W. corner of the N.W.1/4 of the S.E.1/4 of said Sec. 4, thence
39. To the N.W. corner of the N.E.1/4 of said Sec. 4, being a point in the Southerly boundary line of said County of Riverside, thence
40. Along said boundary line and the Northerly boundary line of said Sec. 4 to the point of beginning.

EXHIBIT "E"

DESCRIPTION OF LANDS OUTSIDE COACHELLA VALLEY COUNTY WATER DISTRICT AND WITHIN THE COACHELLA SERVICE AREA, DESIGNATED THE FISH SPRINGS AREA

All that certain tract of land situate in the County of Imperial, State of California, and in the Townships (designated "T") hereinafter mentioned South, and Ranges (designated "R") hereinafter mentioned East, of the San Bernardino Base Line and Meridian, particularly described as follows, to-wit:

Beginning at the N.E. corner of the N.W.1/4 of Sec. 4, T. 9, R. 9, which is a point in the South boundary line of Coachella Valley County Water District and of the County of Riverside and the North Boundary line of the County of Imperial and running thence along said boundary lines and along the Northerly boundary lines of said Sec. 4 and of Sec. 5, T. 9, R. 9:
1. To the N.E. corner of the N.W.1/4 of the N.W.1/4 of said Sec. 5, thence
2. To the S.E. corner of the S.W.1/4 of the N.W.1/4 of Sec. 8, T. 9, R. 9, thence
3. To the S.E. corner of the N.W.1/4 of said Sec. 8, thence
4. To the S.E. corner of the S.W.1/4 of said Sec. 8, thence
5. To the S.E. corner of Sec. 17, T. 9, R. 9, thence
6. To the S.E. corner of Sec. 21, T. 9, R. 9, thence
7. To the S.W. corner of Sec. 12, T. 10, R. 9, thence
8. Along the Southerly boundary line of said Sec. 12 to the S.E. corner of said Sec. 12, thence
9. To the S.E. corner of Sec. 6, T. 10, R. 10, thence
10. To the N.E. corner of the N.W.1/4 of said Sec. 6, thence
11. To the S.W. corner of the N.E.1/4 of the N.E.1/4 of Sec. 16, T. 9, R. 9, thence
12. To the N.E. corner of the N.W.1/4 of the N.E.1/4 of Sec. 4, T. 9, R. 9, thence
13. To the S.W. corner of the N.E.1/4 of said Sec. 4, thence to the point of beginning.

NOTE.—Annex "A" consists of the proposed contract with Coachella Valley County Water District, together with its exhibits, which contract was later executed under date of October 15, 1934 (No. 41r–781)
STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD

In the Matter of

ALLEGED WASTE AND UNREASONABLE USE
OF WATER BY IMPERIAL IRRIGATION
DISTRICT

DECISION REGARDING MISUSE OF WATER
BY IMPERIAL IRRIGATION DISTRICT

DECISION 1600

County: Imperial
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CITING THE RECORD

When citing evidence in the hearing record, the following convention has been adopted:

Information derived from the hearing transcript:

\[ T, IV, 22, 01 - 24, 15 \]

- ending page and line number (may be omitted if a single line reference is cited)
- beginning page and line number
- transcript volume number
- identifying abbreviation of the information source

Information derived from an exhibit:

\[ BOARD, 5, E4 \]

- page number; table, graph, or figure number
- exhibit number
- identifying abbreviation of the information source

Abbreviations of the information sources are:

- Elmore ........ John Elmore
- DWR ............ Department of Water Resources
- IID ............. Imperial Irrigation District
- CWA ............ California Waterfowl Association
- CRB ............ Colorado River Board
- EDF ............ Environmental Defense Fund
- CVWD ........... Coachella Valley Water District
- DFG ............ Department of Fish and Game
- SSPO ........... Salton Sea Property Owners
- USBR ........... U. S. Bureau of Reclamation
- WCB ............ IID Water Conservation Advisory Board
- T ............... Hearing Transcript
- Board .......... State Water Resources Control Board
DECISION REGARDING MISUSE OF WATER
BY IMPERIAL IRRIGATION DISTRICT

BY THE BOARD:

Mr. John Elmore (complainant) having filed a request for an investigation of
the alleged waste and unreasonable use of water by the Imperial Irrigation
District (IID or District); the Department of Water Resources (Department or
DWR) having conducted an investigation, prepared a report and determined that a
misuse of water was occurring; the District having failed to take steps to
correct the problem to the satisfaction of the Department; the Department
having referred the matter to the Board for hearing pursuant to California
Administrative Code, Title 23, Section 4004; the Board having conducted six
days of public hearing in El Centro, California; the complainant, the District,
the Department of Water Resources and other interested parties having appeared
and presented evidence; written closing statements and legal briefs having been
submitted; the evidence, closing statements and legal briefs having been
received and duly considered; the Board finds as follows:

2.0 SUBJECT OF DECISION

In response to a complaint alleging waste and unreasonable use of
water by Imperial Irrigation District (District), a hearing before the
State Water Resources Control Board was held on September 27, 28 and
29, 1983, and December 12, 13 and 14, 1983, in El Centro, California.
The purpose of the hearing was to provide an opportunity for all

1 Article X, Section 2 of the California Constitution prohibits the waste,
unreasonable use, unreasonable method of use or unreasonable method of diversion
of water. All of these practices are included in the definition of "misuse of
water" set forth in Title 23, Section 4000 of the California Administrative
Code.
interested parties to present evidence to assist the Board in determining if the practices of the Imperial Irrigation District result in waste, unreasonable use, unreasonable method of use, or unreasonable method of diversion of water in violation of Article X, Section 2 of the California Constitution. Most of the evidence presented fell into three broad categories: extent of water losses and opportunities for conserving water within the Imperial Irrigation District; other beneficial uses and users for water that might be conserved within the IID; and the effect of IID water management practices on the Salton Sea and surrounding area. On the basis of the evidence presented, the arguments of the parties, and consideration of applicable law, the Board concludes that the provisions of Article X, Section 2 of the California Constitution require that the Imperial Irrigation District take several actions to improve its water conservation program, as specified in this decision.

3.0 BACKGROUND OF PROCEEDING

By letter dated July 17, 1980, Mr. John Elmore requested the Department of Water Resources to conduct an investigation of the alleged misuse of water by the Imperial Irrigation District. Mr. Elmore's letter identified five specific practices of the District or conditions within the District which allegedly resulted in a waste and unreasonable use of water. (See Section 4.0.) By letter dated July 18, 1980, Mr. Elmore requested that this Board conduct a hearing on the alleged misuse of water by the IID at the termination of the Department's investigation or the expiration of a reasonable time for such an investigation.
In response to Mr. Elmore's request, the Department of Water Resources conducted an investigation of water usage within IID. In December 1981, the Department submitted a Report of Investigation which found that although operations of IID were improving, water was being wasted that could be conserved for other beneficial uses. (DWR, 1, Foreword, p. iii; DWR, 10.) The DWR report identified a potential for conserving 438,000 acre-feet per annum (afa) through a combination of physical improvements and operational changes within IID. (DWR, 1, p. 56.) The Department notified the District of the findings of the report and requested that it submit a water conservation plan within six months.

The District initially agreed to prepare a water conservation plan, and later requested an extension of time to submit the plan. (IID, 10B; IID, 10C.) By letter dated September 29, 1982, however, the District reviewed its water conservation efforts and advised the Department that the District considered its use of water to be reasonable and not to involve unnecessary waste. (IID, 10D.) The Department concluded that the IID letter was not responsive to the request to develop a water conservation plan and referred the matter to the Board pursuant to the provisions of California Administrative Code, Title 23, Sections 4000 et seq.

By letter to Board Chairwoman Carole Onorato dated May 3, 1983, Mr. Elmore's attorney renewed his request for a hearing or enforcement proceedings to eliminate the alleged misuse of water by the IID. Other letters supporting Mr. Elmore's request for a hearing were received from Francis E. and Elizabeth D. Griset; R. Raymond and Jean Campbell Griset; attorney Lowell F. Southerland on behalf of some 70
property owners in the vicinity of the Salton Sea; Citizens for a Better Environment; Harold Kelso Hunt, II; and the Environmental Defense Fund. (Board 1, Correspondence File.) In accordance with California Administrative Code, Title 23, Section 4004, the Board scheduled the matter for hearing.

4.0 ALLEGATIONS OF JOHN ELMORE

By letter dated June 17, 1980, John Elmore requested the Department of Water Resources to investigate the alleged misuse of water by Imperial Irrigation District resulting from allegedly wasteful management and marketing practices. (DWR, 1, Appendix A.) Mr. Elmore is a farmer with acreage adjacent to the Salton Sea which he has had to protect with dikes due to the rising level of the Salton Sea. His letter alleges that the rise in the level of the Salton Sea has been caused by the following policies and practices within the Imperial Irrigation District:

a. Maintaining canals in overly full conditions causes frequent spills at the terminal end of the canals.

b. The absence of reservoirs for regulation of canal flows causes the unnecessary delivery of excess amounts of water. This results in canal spills and runoff into the Salton Sea.

c. Excess water is delivered to farmers' headgates resulting in excess tailwater.

d. There is an absence of tailwater recovery systems within the IID. Tailwater recovery systems would allow use of runoff for productive purposes.
Farmers are required to order water in 24-hour delivery intervals and the delivery cannot reasonably be terminated after sufficient water is received. Excess water from the deliveries drains unused into the Salton Sea.

The allegations of Mr. Elmore's complaint and other aspects of Imperial Irrigation District operations are addressed in Section 10 below.

**5.0 DESCRIPTION OF IMPERIAL IRRIGATION DISTRICT**

**5.1 Geographic Description**

The Imperial Irrigation District is located in Imperial County between the southern end of the Salton Sea and the Mexican border. The New and Alamo Rivers traverse the valley from Mexico to the Salton Sea which is a natural sump. The IID encompasses 1,062,290 acres, of which about 460,000 acres are irrigated each year. The main crops grown in the Imperial Valley are alfalfa, wheat, cotton, sugar beets and lettuce. There are approximately 16,000 acres devoted to urban land use with a population of about 95,000 concentrated mainly in the towns of El Centro, Brawley and Calexico.

The soils within the IID vary from the Imperial Clays with a low permeability to highly permeable sandy soils. There is a high degree of unpredictable stratification of the soils within the District. This makes it difficult to apply water evenly and to obtain the necessary penetration for effectively leaching salts from the soil. Land leveling has helped in attaining water penetration of the soils with low permeability. Extensive tile drain installation has been...
required to keep the soil from becoming water logged and to attain the leaching needed because of salts in the soil and irrigation water.

The average annual rainfall in the area is approximately 2.8 inches. (DWR, 1, p. 5.) From 1976 through 1981 rainfall measured at three gaging stations around the Salton Sea averaged about 4.5 inches per year due to several large tropical storms. (Board 1, 1982 Hess Geotechnical Corp. report, Volume 1.) Complete records of rainfall measurements in the Imperial Valley are shown in Board Exhibit 5.

5.2 Irrigation Delivery and Drainage System

All irrigation, municipal, industrial and domestic water used within the Imperial Valley is supplied by the IID from the Colorado River. The delivery system which begins at the Imperial Dam includes about 1,760 miles of conveyance and distribution facilities.

When the IID places an order for water with the U. S. Department of Interior, Bureau of Reclamation (Bureau or USBR), the request is made six to ten days prior to the time the water is to be delivered to the farmers' headgates. Water which is to be diverted into the All-American Canal at Imperial Dam must be released from Hoover Dam approximately 305 miles upstream. The water passes through U. S. Bureau of Reclamation facilities at Lake Mojave and Lake Havasu on the Colorado River before flowing downstream to Imperial Dam. Water which is diverted into the All-American Canal is distributed to the East Highline, Central Main and Westside Main Canals which are the three major canals that supply water to the smaller canals throughout the valley. The water is regulated by approximately 500 control gates and
5,500 farmer headgates. This entire delivery system operates through gravity flow.

The IID also operates and maintains approximately 1,450 miles of drainage canals to collect irrigation return flows. These canals drain into the New and Alamo Rivers which in turn drain into the Salton Sea. During the period 1965 to 1980, IID diversions from the Colorado River averaged 2,855,000 afa. (IID, 16, Attachment 3.) Of this amount, an average of 1,036,446 afa entered the Salton Sea as irrigation return flow from IID. IID return flow constituted about 71 percent of all inflow to the Salton Sea during the years mentioned. (Elmore, 3, Table 3.)

5.3 Hydroelectric Power Generation

The IID has constructed and operates hydroelectric power plants at Drops 1 through 5 along the All-American Canal. The flow capacities for these power plants are as follows:

- Drop #1: 5,350 cfs
- Drop #2: 6,000 cfs
- Drop #3: 6,000 cfs
- Drop #4: 6,000 cfs
- Drop #5: 3,000 cfs

(T. IV, 67, 68, 03; attachment to letter dated October 13, 1983 from R. L. Knox to Raymond Walsh of the SWRCB.) From 1960 to 1982 there has been an increase in the generation of power from 69.5 to 81.4 Kilowatt hours per acre-foot. The revenue from this power has increased in the same period from $1.096 to $4.649 per af. (IID, 16, Attach. 25.) At present day costs, 100,000 af of water would generate $464,900 in revenue for the IID. IID submitted evidence indicating
that all the water diverted through the All-American Canal passes through the power plants and is used to generate electricity. (IID, 6, p. 4.)

6.0 PARTICIPANTS AT HEARING

The following parties made evidentiary presentations at the hearing:
Mr. John Elmore, Department of Water Resources, Imperial Irrigation District, California Waterfowl Association, Colorado River Board, Environmental Defense Fund, Coachella Valley Water District, Department of Fish and Game, Salton Sea Property Owners,2 U. S. Bureau of Reclamation, and the Imperial Irrigation District Water Conservation Advisory Board.

In addition to parties making evidentiary presentations, the following persons made non-evidentiary policy statements at the time of the hearing: Dr. Wiley Horne, representing Metropolitan Water District (MWD); Mr. William DuBois; Mr. Robert Adams; Mr. Ross Deter, representing the California Energy Commission; Mr. Bob Goodson, representing Southern California Edison; Mr. James M. Bucher; Mr. Luis Legaspi, representing the Imperial County Board of Supervisors;

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2 The plaintiffs in two separate lawsuits against IID participated in this proceeding through their attorney, Lowell F. Southerland, and were referred to as the "Salton Sea Property Owners". The lawsuits in which said parties are plaintiffs are Salton Bay Marina, Inc., et al. v. Imperial Irrigation District (Imperial County Superior Court No. 48157) and Anderson, et al. v. Imperial Irrigation District and Coachella Valley Water District (Imperial County Superior Court No. 57249). Appeals in both cases are pending.
Mr. Jack Strobel; Mr. Ron Ackert, representing the Salton Sea Fish and Wildlife Club; Ms. Margaret Matsui, representing the Vantuna Research Group of Occidental College; Mr. Cliff Hurley; Mr. Charles Westmoreland; and Mr. Lloyd Heger.

7.0 WATER RIGHTS

The right of Imperial Irrigation District to divert and use water from the Colorado River is not at issue in this proceeding except insofar as that right is limited by the State Constitutional prohibition of waste and unreasonable use or method of use of water. (California Constitution, Article X, Section 2.) As discussed in Section 8.0, however, an important aspect of determining the reasonableness of the District's present water usage is to examine the alternative uses which may be made of water saved through conservation. The Colorado River is an interstate watercourse which has been subject to considerable water rights litigation. Consequently, the evaluation of alternative uses necessarily involves review of the legal framework governing the allocation of Colorado River water among competing users.

7.1 Boulder Canyon Project Act

The Boulder Canyon Project Act was enacted on December 21, 1928. (43 U.S.C. §6617 et seq.) The purposes of the Act are flood control, improvement of navigation, regulation of flows, storage and delivery of stored waters for reclamation and other beneficial uses exclusively within the United States, and for the generation of electric energy. The Act authorizes construction of Hoover Dam and Power Plant and
construction of the All-American Canal serving the Imperial and Coachella Valleys.

Section 5 of the Boulder Canyon Project Act authorizes the Secretary of the Interior (Secretary) to enter into water delivery contracts with users in the lower basin states. The section also provides that no person can have the use of stored Colorado River water without a contract with the Secretary. (43 U.S.C. §617d.) Before entering into any agreements with water users in California, the Secretary requested the State to agree on a listing of relative priorities of rights among the major users of Colorado River water. The result of this request was the "California Seven-Party Agreement" of August 18, 1931.

7.2 California Seven-Party Agreement
The parties to this agreement agreed that their respective claims to Colorado River water should be accorded the following priorities:
<table>
<thead>
<tr>
<th>Priority</th>
<th>Description</th>
<th>Acre-feet Annually</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Palo Verde Irrigation District, gross area of 104,500 acres</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Yuma Project (Reservation Division) not exceeding a gross area of 25,000 acres</td>
<td>3,850,000</td>
</tr>
<tr>
<td>3(a)</td>
<td>Imperial Irrigation District and lands in Imperial and Coachella Valleys to be served by AAC</td>
<td></td>
</tr>
<tr>
<td>3(b)</td>
<td>Palo Verde Irrigation District -- 16,000 acres of mesa lands</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Metropolitan Water District and/or City of Los Angeles and/or others on coastal plain</td>
<td>550,000</td>
</tr>
<tr>
<td>5(a)</td>
<td>Metropolitan Water District and/or City of Los Angeles and/or others on coastal plain</td>
<td>550,000</td>
</tr>
<tr>
<td>5(b)</td>
<td>City and/or County of San Diego</td>
<td>112,000</td>
</tr>
<tr>
<td>6(a)</td>
<td>Imperial Irrigation District and lands in Imperial and Coachella Valleys</td>
<td>300,000</td>
</tr>
<tr>
<td>6(b)</td>
<td>Palo Verde Irrigation District -- 16,000 acres of mesa lands</td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td>5,362,000</td>
</tr>
</tbody>
</table>
Under the Supreme Court decision in *Arizona v. California*, 373 U.S. 546, 83 S.Ct. 1468 (1963), California's share of the 7.5 million acre-feet per annum (mafa) allocated to the lower basin states is limited to 4.4 mafa plus one-half of any surplus over the 7.5 mafa. Thus, California's allotment when no surplus water is present would fulfill only the first four priority claims. Of the total 1,212,000 afa to which Metropolitan Water District has claims,³ only 550,000 afa will be provided if California is limited to a total of 4.4 mafa. This amount could be further reduced if other rights and claims not covered by the Seven-Party Agreement are deducted from MWD's fourth priority right (CRB, 1, Table 2.) If use of water by any of the higher priority users were reduced below the agreed upon allotments, however, the unused water would be available to Metropolitan Water District or the other parties to the agreement in order of priority as specified in the above schedule.

7.3 Water Delivery Contracts

Following execution of the Seven-Party Agreement in 1931, the Secretary of the Interior entered into water delivery contracts with the water users in California. Each of the current contracts with the parties to the Seven-Party Agreement includes the complete schedule of priorities and quantities established by that agreement. (CRB, 1, p. 10.) Thus, under the contract between the Secretary of the Interior and IID dated December 1, 1932, the IID and the other areas

³ This includes the MWD allotments which total 1.1 mafa as shown in Table 1 plus the allotment to the City and/or County of San Diego of 112,000 afa that has been assigned to MWD.
listed in the first three priorities of the Seven-Party Agreement are to receive 3,850,000 afa total. Of this amount, IID's "present perfected right" has been determined to be the lesser of 2,600,000 afa or the quantity necessary to supply the consumptive use required for irrigation of 424,145 acres and for satisfaction of related uses. Arizona v. California, 439 U.S. 419, 429 (1979). To the extent that the first and second priority users do not utilize their full allotments, IID may receive additional water. In recent years, IID's water use has averaged about 2,900,000 afa. (DWR, 1, p. 50.)

U.S. Supreme Court Decisions

Although the Boulder Canyon Project Act authorized the lower basin states to enter into an agreement allocating their respective shares of Colorado River water, no such agreement was reached. Nevertheless, the Secretary of the Interior entered into contracts for delivery of water to users in the lower basin states, before the water rights of each state were resolved. In order to obtain Congressional authorization for the Central Arizona Project, Arizona filed suit in the Supreme Court in 1952 against California and seven public agencies within California. Following an extensive trial, the Supreme Court

4 "Present perfected right" was defined by the Supreme Court as a "water right acquired in accordance with state law, which has been exercised by the actual diversion of a specific quantity of water that has been applied to a defined area of land or to definite municipal or industrial works" and, in addition, present perfected rights include rights created by federal reservation whether or not applied to beneficial use. As used in the Arizona v. California decree, present perfected rights were determined as rights existing as of June 25, 1929, the effective date of the Boulder Canyon Project Act. (376 U.S. 340, 341, 84 S.Ct. 755, 756 (1964).)

Three points in the Court's opinion are particularly significant with respect to determination of the rights of California as a state, and the rights of the water users within the state to the water of the Colorado River. First, the Court concluded that by enacting the Boulder Canyon Project Act, Congress established a statutory apportionment of mainstream Colorado River water among the lower basin states. The division of water adopted by Congress allocates 4.4 mafa to California, 2.8 mafa to Arizona and 300,000 afa to Nevada. Any surplus water after the first 7.5 mafa would be divided evenly between Arizona and California. Although the lower basin states had failed to enter into an agreement as authorized by the Act, the Court concluded that the Act gave the Secretary of the Interior adequate authority to accomplish the allocation of water among the lower states by empowering the Secretary of the Interior to make contracts for water delivery and by providing that no person could have water without a contract. (Id., 373 U.S. at 564, 565, 83 S.Ct. at 1480.)

The second important point of the Supreme Court decision is that it settled the issue of whether the allocation of water reflected in the Boulder Canyon Project Act referred to water in the Colorado River and its tributaries, or whether it referred only to water in the "mainstream" of the river. Contrary to California's position, the Court held that Congress intended the allocation to apply only to mainstream water downstream from Lee Ferry and not to water in Colorado River tributaries downstream of that point. (373 U.S. at 572, 83 S.Ct. at 1483.)
The third point relevant to evaluation of California water users' rights to Colorado River water is that the Court held that Congress intended that the contracts entered into by the Secretary of the Interior would determine which users within each state were entitled to receive water. The Court further held that the Secretary's contracts were not limited by the law of prior appropriation. (373 U.S. at 580, 581, 83 S.Ct. at 1487, 1488.) However, the Court went on to acknowledge that despite the significance of the Secretary's contracts, Section 18 of the Boulder Canyon Project Act "plainly allows the States to do things not inconsistent with the Project Act or with federal control of the river." (373 U.S. at 588, 83 S.Ct. at 1491, 1492.)

The role of state law with respect to the water rights of Imperial Irrigation District was explained further by the Supreme Court decision in Bryant v. Yellen, 447 U.S. 352, 100 S.Ct. 2231 (1980):

"In the first place, it bears emphasizing that the 66 [of the Boulder Canyon Project Act] perfected right is a water right operating under state law...in providing for these rights the Secretary [of Interior] must take account of state law. In this respect, state law was not displaced by the Project Act and must be consulted in determining the content and characteristics of the water right that was adjudicated to the District by our decree [in Arizona v. California]." 447 U.S. at 371, 372.

Regulation to prevent waste and unreasonable use of water within each of the states receiving Colorado River water is not inconsistent with any provision of the Boulder Canyon Project Act. Further, as discussed in Section 8.0 below, regulation to prevent waste and unreasonable use of water is a clearly established element of
California water law. Therefore, in accordance with the Supreme Court decisions in *Arizona v. California*, *supra*, and *Bryant v. Yellen*, *supra*, the use of water by Imperial Irrigation District is subject to the provisions of California law regarding waste and unreasonable use.

### 7.5 Transfer of Conserved Water

Under the existing allocation system, conserved water not used by IID would be available to other parties to the Seven-Party Agreement in order of priority. In appropriate conditions, the conserved water presumably could be transferred directly to another party by agreement between IID and the other party. Due to the structure of the Seven-Party Agreement, it may also be prudent to secure the consent of parties who hold higher priority rights than are held by the party to whom the conserved water would be transferred. As a practical matter, consent to the transfer by the Secretary of the Interior or his designee would be required since the Bureau of Reclamation controls the flow of Colorado River water. The written statement submitted by the Bureau of Reclamation indicates that the major incentive for the Bureau to study water conservation potential within the IID was to identify water which could be made available to other users. (USBR, 1, p. 3.) Thus, the evidence indicates that the Bureau would support a workable water transfer arrangement.

The representative of the Colorado River Board expressed the opinion that the consent of all parties to the Seven-Party Agreement would be required to achieve a direct transfer (T, IV, 102,19 - 103,11), but the agreement itself is silent on the subject. If a given party were not adversely affected by a proposed transfer, it is by no means
certain that the party's consent would be required. Even if consent of all seven parties were required, there has been no indication that such consent would not be forthcoming.

One example of a water transfer arrangement is presently in effect. The transfer involves an agreement between MWD and the Coachella Valley Water District (CVWD) for use of a portion of the water conserved by lining the Coachella Branch of the All-American Canal. At such times as the CVWD does not need all or a portion of the conserved water, MWD will be able to receive the water in exchange for paying a portion of CVWD's repayment costs of lining the Coachella Branch of the All-American Canal. (EDF, 3, 61.)

The distribution of Colorado River water among California water users is governed by the users' contracts with the Secretary of the Interior. In addition to contractual rights to the delivery of water by the USBR, IID holds appropriative water right permits from the State. Following the Arizona v. California decision, supra, the role of the state permit system is not entirely clear. However, if the IID were to engage in a water transfer arrangement, the area of use specified in the permits could be amended following submission and approval of a petition to change the place of use. (Water Code Sections 1701 et seq.) Where other water users are not adversely affected, no provision of state law would prevent a transfer of water from occurring. In fact, Water Code Section 1011 expressly authorizes the sale, lease, exchange or other transfer of water saved through conservation efforts. Under appropriate circumstances, the maximum

5 Imperial Irrigation District has received water right permits on Applications 7482, 7739, 7740, 7741, 7742, 7743, and 8534.
beneficial use provision of Article X, Section 2 of the California Constitution may mandate the transfer of surplus water to water-short areas.

In summary, although a direct water transfer arrangement would require agreement between IID and another participating party, together with at least the tacit approval of the Bureau of Reclamation, there do not appear to be any significant legal barriers to such a transfer.

7.6 Summary of Water Right Considerations

The Supreme Court's ruling in Arizona v. California, supra, established that rights to water from the main stem of the lower Colorado River are governed primarily by the provisions of water delivery contracts with the Secretary of the Interior. In the case of California users, the water delivery contracts are based upon the Seven-Party Agreement which in turn is based upon claims to water rights acquired under state law. The priorities reflected in the Seven-Party Agreement were carried over into the Secretary of the Interior's contracts with major California water users.

The Supreme Court's 1964 decree calls for delivery of 4.4 mafa to California water users out of the first 7.5 mafa available to the lower basin states. (Arizona v. California, 376 U.S. 340, 84 S.Ct. 755.) Subsequent legislation provides that the Secretary must deliver at least 4.4 mafa to California at any time the Central Arizona Project diverts any water. (43 U.S.C. 61521(b).) In addition to the 4.4 mafa, the Secretary must deliver to California half of any surplus over 7.5 mafa which he determines is available to the lower basin states. In addition, the Secretary can allow California to divert water allocated to Nevada and Arizona which they cannot use in a
particular year. A reduction of water diversion by Imperial
Irrigation District would increase the water available to serve
unfulfilled contractual demands by California water users. A
reduction of water diversion by IID could also occur as part of a
water transfer agreement. The subject of alternative uses and demand
for water conserved by IID is addressed below in Section 11.

8.0 LEGAL ASPECTS OF WASTE AND UNREASONABLE USE DETERMINATIONS

8.1 Constitutional and Statutory Provisions

The State's policy on prevention of waste and unreasonable use of
water is based upon Article X, Section 2 of the California
Constitution which provides:

"It is hereby declared that because of the
conditions prevailing in this State the general
welfare requires that the water resources of the
State be put to beneficial use to the fullest
extent of which they are capable, and that the
waste or unreasonable use or unreasonable method
of use of water be prevented, and that the
conservation of such waters is to be exercised
with a view to the reasonable and beneficial use
thereof in the interest of the people and for the
public welfare. The right to water or to the use
or flow of water in or from any natural stream or
water course in this State is and shall be limited
to such water as shall be reasonably required for
the beneficial use to be served, and such right
does not and shall not extend to the waste or
unreasonable use or unreasonable method of use or
unreasonable method of diversion of water....
This section shall be self-executing, and the
Legislature may also enact laws in the furtherance
of the policy in this section contained."

A similar limitation is repeated in Section 100 of the Water Code. In
addition, Section 775 of the Water Code charges the Department of
Water Resources and the State Water Resources Control Board with the
responsibility of preventing the misuse of water:
"The department [of Water Resources] and board [the State Water Resources Control Board] shall take all appropriate proceedings or actions before executive, legislative, or judicial agencies to prevent waste, unreasonable use, unreasonable method of use, or unreasonable method of diversion of water in this State."

The language of the California Constitution and the Water Code refer to "waste or unreasonable use or unreasonable method of use or unreasonable method of diversion of water" as matters which are to be prevented. This broad language clearly establishes that any misuse of water is prohibited whether the misuse results from the type of use, the manner of use or the manner of diverting the water to the place of intended use. Since all types of misuse are prohibited, it generally is not productive to attempt to label a given practice or situation as an "unreasonable use" as opposed to an "unreasonable method of use", etc. In all instances, the key determination is one of reasonableness. This fact is implicitly recognized in the administrative regulations discussed below which refer generally to the "misuse" of water.

8.2 **Joint Administrative Regulations**

As previously discussed in Section 3.0, the present case was brought to the attention of the Board and the Department of Water Resources by a complaint filed by John Elmore pursuant to Title 23 of the California Administrative Code, Sections 4000 et seq. These regulations establish a procedure for investigating alleged misuses of water and notifying the water supplier of findings of the investigation. Normally, the investigation is conducted by the Department of Water Resources. If a misuse of water is determined to
exist by DWR's investigation, the water supplier must either terminate the misuse or demonstrate that no misuse has occurred or is occurring. If the water supplier fails to do so within the time specified by DWR, the regulations provide that the Board may hold a hearing to determine if a misuse of water has occurred or is occurring. After the hearing, the Board may issue an order requiring prevention or termination of any misuse of water. The Title 23 regulations also describe various enforcement procedures available to the Board.

The brief submitted by IID after the close of the hearing suggests that the Department of Water Resources may not have concluded that the District's practices result in a waste or unreasonable use of water, and that therefore there may have been no need for a hearing before the Board. (IID Brief, 2/21/84, p. 3.) The District bases this suggestion in part upon the statement by DWR witness Clyde Arnold that waste of water in these proceedings is now a matter for determination by the Board. (T, III, 16, 10-15.) The District also cites a statement from a letter from former DWR Director Ron Robie to Imperial Irrigation District that it is "not presently economic for you [IID] to salvage much of this water for your own uses." (Board, 1, Correspondence File; letter dated 12/31/82 from Ron Robie to Gerald Moore, President of IID Board of Directors.)

The Board believes that a thorough review of the record leaves no doubt that the Department concluded that IID practices result in a misuse of water. Following completion of its investigation, the Department advised both the District and the IID farmers of its
conclusion that waste and misuse of water was occurring. (DWR Exhs. 9 and 10; T, III, 2,1 - 3,24.) Similarly, the Department repeated its conclusion that there was a "waste of water" within IID in its letter dated November 1, 1982, referring the matter to the Board for hearing. (Board, 1, Correspondence File, letter dated 11/1/82 from Ron Robie to Carole Onorato, Chairwoman, SWRCB.) Finally, the written closing statement of the Department reviews the basis for the Department's conclusions regarding misuse of water and cites evidence in the DWR report of investigation in support of that conclusion. (DWR Closing Statement, 2/21/84.)

In summary, the Board concludes that the procedural steps established by California Administrative Code, Title 23, Sections 4000 et seq. have been followed. It should be recognized, however, that Section 4007 of the regulations provides that said regulations shall not be construed as a limitation or constraint on the authority of the Board or DWR to prevent the misuse of water. Thus, the general authorization for the Board to take all appropriate actions to prevent waste or unreasonable use of water under Water Code Section 275 is not limited by any provisions of the Title 23 regulations.

### 8.3 Meaning of Reasonable and Beneficial Use Requirement

The "reasonableness" of the diversion and use of water within IID cannot be determined in the abstract or by some inflexible standard. The California Supreme Court has described the nature of the reasonable and beneficial use requirement of the California Constitution as follows:

-22-
"What is a beneficial use, of course, depends upon the facts and circumstances of each case. What may be a reasonable beneficial use, where water is present in excess of all needs, would not be a reasonable beneficial use in an area of great scarcity and great need. What is a beneficial use at one time may, because of changed conditions, become a waste of water at a later time." (Irr. Dist. v. Lindsay-Strathmore Irr. Dist., 3 Cal.2d 489, 45 P.2d 972, 1007 (1935), emphasis added.)

In a more recent decision, the Court elaborated further on the meaning of the reasonable use standard and stated:

"Although, as we have said, what is a reasonable use of water depends on the circumstances of each case, such an inquiry cannot be resolved in vacuo isolated from state-wide considerations of transcendent importance. Paramount among these we see the ever increasing need for the conservation of water in this state, an inescapable reality of life quite apart from its express recognition in the 1928 amendment [now Article X, Section 2 of the California Constitution]." Joslin v. Marin Municipal Water District, 67 Cal.2d 132, 429 P.2d 889 (1967), cited with approval in Environmental Defense Fund, Inc. v. East Bay Municipal Utility District, 26 Cal.3d 183, 161 Cal.Rptr. 466 (1980).

Thus, in determining the "reasonableness" of water usage within IID, the law requires an examination of the ascertainable facts concerning such water usage and an evaluation of such facts in view of the increasing need for water conservation within California. Although each case must be evaluated on its own merits, prior court decisions, prior decisions of the Board, and several statutes provide guidance in
evaluating water usage within Imperial Irrigation District. Several factors which should be considered are described below.

8.4 Factors to be Considered in Evaluating Instances of Alleged Waste and Unreasonable Use

8.4.1 Other Potential Beneficial Uses for Conserved Water

One of the most important factors to be considered in evaluating the reasonableness of IID's present use of water is identification of other beneficial uses to be made of water which could be conserved. In Joslin v. Marin Municipal Water District, Id., the court weighed the competing demands for water of a water district and the people it served against the demands of a riparian landowner who depended upon an unobstructed flow of water to replenish the rock and gravel which the landowner excavated from the streambed and sold. The Court concluded that the riparian's insistence on the full unobstructed flow was unreasonable. Similarly, in SWRCB Decision 1463 the Board concluded that filling a recreational lake during a drought was an unreasonable use of water since the same water could otherwise be used to reduce the need for water imports from Northern California where several areas were experiencing water shortages.

The position of IID is that "[i]f there are no competing users and some beneficial use is being made of the water, the water involved may be considered surplus water, but it is not 'wasted water'." (IID Brief 2/21/84, p. 26.) In reliance upon this position, the IID presented evidence intended to show that there have not been any

shortages of water among diverters from the lower Colorado River in recent years. The water supply situation of Colorado River diverters and the subject of other beneficial uses to be made of conserved water are addressed in Section 11.0 below.

Although evaluation of the alternative uses to be made of conserved water is an important aspect of evaluating the reasonableness of the District's water use, a finding of unreasonable use or method of use does not require the existence of a dispute between competing users. For example, excessive diversion or an unreasonable method of diversion of water to the detriment of instream fish and wildlife uses may be wasteful even if there are no objections from competing consumptive users. (Environmental Defense Fund v. East Bay Municipal Utility District, supra, 200 Cal.3d at 200.) Similarly, if other parties demonstrate an intention to utilize water which could be conserved through reasonable conservation measures, the failure to undertake such conservation may be found to be unreasonable. The parties interested in utilizing the conserved water are not required to file a lawsuit or an administrative complaint in order for the Board to acknowledge that there are other beneficial uses to be made of water which can be conserved.

8.4.2 Whether the Excess Water Now Serves a Reasonable and Beneficial Purpose

Although there may be means for increasing the efficiency of water use by a particular water user, the availability of excess water for other beneficial purposes may serve to mitigate what might otherwise be an unreasonable situation. For example, if virtually all of an irrigator's tailwater reenters the stream where it is available for
downstream use, and if the diversion has no adverse effect on instream uses, then it may not be unreasonable to allow large quantities of tailwater. Similarly, if a water user's canal seepage contributes to the recharge of a groundwater basin, such seepage could be beneficial and considered reasonable in certain circumstances since underground storage of water for future use is recognized as a beneficial use. (Water Code Section 1242.) A third possibility, as discussed in Section 12.0 below, is the availability of irrigation return flow for the enhancement of fish and wildlife resources which is recognized as a beneficial use of water under Water Code Section 1243.

8.4.3 Probable Benefits of Water Savings

The probable economic, environmental and other benefits that would result from more efficient use of water should be identified. These benefits may serve to offset a portion of the cost of more stringent water conservation policies.

8.4.4 The Amount of Water Reasonably Required for Current Use

Determining a reasonable duty of water or reasonable water use requirements can assist in providing a general indication of whether a water user is in compliance with the constitutional requirements of reasonable and beneficial use. In a large complex situation such as IID, however, cropping patterns may vary from year to year, leaching requirements vary with location, and other factors affecting water consumption may also vary considerably. In the absence of comprehensive data on all water demands within the IID, it is extremely difficult to estimate the total "reasonable" water requirements of the District. Nevertheless, the Board may evaluate
the reasonableness of those aspects of IID's operations on which meaningful information is available.

8.4.5 Amount and Reasonableness of the Cost of Saving Water

The fact that water conservation may require the water user to incur additional expense provides no justification to continue wasteful or unreasonable practices. In People ex rel. State Water Resources Control Board v. Forni, 54 Cal.App.3d 743, 126 Cal.Rptr. 851 (1976), the court ruled that water users may properly be required to "endure some inconvenience or to incur reasonable expenses" in order to comply with the constitutional standard of putting the water resources of the state to maximum beneficial use. The decision in the Forni case indicates that the Board may require a water user to build water reservoirs or make other physical improvements if that is the only feasible method of achieving the constitutional mandate of reasonableness. (54 Cal.App.3d at 751-752.)

The determination of whether the cost of a particular conservation measure is reasonable must be made with respect to the resources available for financing water conservation efforts as well as the value of the water which would be conserved. Where outside parties are willing to finance improvements in exchange for conserved water, the availability of financing from those parties should also be considered.

8.4.6 Whether the Required Methods of Saving Water Are Conventional and Reasonable Rather Than Extraordinary

Water Code Section 100.5, enacted in 1980, states:
"It is hereby declared to be the established policy of this state that conformity of a use, method of use, or method of diversion of water with local custom shall not be solely determinative of its reasonableness, but shall be considered as one factor to be weighed in the determination of the reasonableness of the use, method of use, or method of diversion of water within the meaning of Section 2 of Article X of the California Constitution."

Although this statute confirms the traditional view that local custom should be considered in evaluating reasonableness of water use, it clarifies that conformity with local custom alone does not foreclose a finding of waste and unreasonable use in appropriate circumstances. The Board also recognizes that determining the local custom with which the operations of an irrigation district should be compared is difficult if no closely comparable districts exist. This is a problem with respect to the IID where irrigation return flow is not available for further consumptive use. In contrast, the return flow from most districts eventually reenters a natural stream system and is available for further use.

8.4.7 A Physical Plan or Solution
This factor is closely related to consideration of other potential uses of water to be saved, as discussed above in Section 8.4.1. In disputes between competing water users, courts have frequently considered whether there is a "physical solution" available by which the needs of both users can be met. (Peabody v. Vallejo, 2 Cal.2d 351, 383-384, 40 P.2d 486 (1935), Waterford Irr. Dist. v. Turlock Irr. Dist., 50 Cal.App. 213, 194 Pac. 757 (1920), People ex rel. State Water Resources Control Board v. Forni, supra, 54 Cal.App.3d at 751-752.) If there is such a solution, then the constitutional goal of
promoting maximum beneficial use of the State's waters will be served by adopting the "physical solution", provided other water users and instream uses are not adversely affected.

In the present case, there currently is no dispute between competing water right holders and, therefore, consideration of a "physical solution", as the term is normally used, is not required. However, there are impending shortages of water which are reasonably certain to exist within the period in which a physical solution to avoid the shortages could be implemented (see Section 11.0). Therefore, it is proper to initiate steps immediately which will assist in alleviating the shortage.

9.0 WATER LOSSES WITHIN IMPERIAL IRRIGATION DISTRICT

9.1 Summary of Estimates of Water Losses

Approximately one million acre-feet per annum of irrigation return flow enter the Salton Sea from Imperial Irrigation District. (See Table 2 below.) Unlike return flows in most areas, this water is lost to further beneficial consumptive use. The four main sources of water loss within IID which were identified at the hearing are: tailwater, canal spills, canal seepage, and leachwater. The total quantity of loss attributable to all four sources can be determined fairly accurately by subtracting the flow in the New River and Alamo River as they enter IID from the flow in those rivers as they enter the Salton Sea. Adjustments must also be made for District lands which drain directly into the Salton Sea and for various other factors such as precipitation within the District.
Although there is general agreement on the quantity of total water losses within IID, there is considerable variation in the estimates of losses attributable to each of the four main sources described. The difficulty in determining the quantity of loss from each source is due to the lack of measurements of canal spills and tailwater and problems in accurately estimating losses due to canal seepage and leachwater.

The information presented in Table 2 below is based on studies submitted by the named parties which cover similar periods of time. The processes used to develop each of the parties' estimates are described briefly in Sections 9.2 through 9.4 below. The various parties approached the process of accounting for water use within IID differently. In some instances, in order to present values for components of IID water use in a comparable form, the values in Table 2 below were derived from information submitted by the parties.
TABLE 2
ESTIMATED WATER LOSS FROM THE IMPERIAL IRRIGATION DISTRICT
(Acre-feet per annum)

<table>
<thead>
<tr>
<th></th>
<th>DWR, 1 &amp; DWR, 17</th>
<th>ELMORE, 3</th>
<th>IID, 16</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1, pp. 13, 14, 15, 41-43</td>
<td>3, Table 4</td>
<td>16, Attachment 13</td>
</tr>
<tr>
<td>2. Inflow to IID-Drop 1</td>
<td>2,791,000</td>
<td>2,744,000</td>
<td>2,757,000</td>
</tr>
<tr>
<td>3. Operational Losses (including Canal Seepage)</td>
<td>253,000</td>
<td>97,000</td>
<td>254,000</td>
</tr>
<tr>
<td>4. Canal Spill</td>
<td>53,000</td>
<td>58,000</td>
<td>135,000</td>
</tr>
<tr>
<td>5. Delivered to Users</td>
<td>2,537,000</td>
<td>2,500,000</td>
<td>2,368,000</td>
</tr>
<tr>
<td>6. Crop Evapotranspiration</td>
<td>1,664,000</td>
<td>---</td>
<td>1,736,000</td>
</tr>
<tr>
<td>7. Leachwater</td>
<td>250,000</td>
<td>309,000</td>
<td>281,000</td>
</tr>
<tr>
<td>8. Tailwater</td>
<td>580,000</td>
<td>559,000</td>
<td>312,000</td>
</tr>
<tr>
<td>9. Excess Leach and Tailwater</td>
<td>190,000</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>10. TOTAL -- Leachwater + Tailwater (7 + 8 + 9)</td>
<td>820,000</td>
<td>868,000</td>
<td>593,000</td>
</tr>
<tr>
<td>11. TOTAL LOSS (3 + 4 + 10)</td>
<td>1,126,000</td>
<td>1,023,000</td>
<td>982,000</td>
</tr>
<tr>
<td>12. Loss As Percent of Inflow</td>
<td>40%</td>
<td>37%</td>
<td>36%</td>
</tr>
</tbody>
</table>

a. Assumed by DWR to include the 53,000 canal spills on Line 4.
b. Assumed by DWR that 15 percent crop ET is necessary for leaching.
c. Assumed value based on IID maximum allowable tailwater. Actual value includes some of quantity reported in Line 9.
d. Water loss which exceeds assumed leachwater and tailwater values. Quantity which must be allocated to each source of loss could not be determined.
e. Included by Board from IID, 3, p. 112 for comparison.
f. Includes canal seepage only.
g. Includes the 58,000 afa canal spills shown on Line 4.
h. Includes 34,000 afa seepage recovery.
i. Includes 39,000 afa delivered to non-farm users.
9.2 Department of Water Resources Estimates

The Department of Water Resources selected the years 1975 to 1979 as a representative period for studying recent operations of IID. The quantity of water delivered to IID via the All-American Canal at Drop 1 was determined from IID records. The 53,000 afa value reported for canal spills was estimated based upon a limited amount of data from one canal. This estimate was very close to the value of 2 percent of delivered water which was estimated by Robert Wilson of the IID Water Department. (DWR, 17, p. 10.) The Department of Water Resources estimated that canal spills could be reduced by approximately 50,000 afa. (DWR, 17, p. 11.)

The Department estimates of canal seepage, which are included in the value shown for operational losses in Table 2, were based upon information in the IID Annual Summary. (DWR, 17, 16-17.) The Department estimates that approximately 140,000 afa could be conserved through additional canal lining and seepage recovery lines. In addition, the Department estimates a potential savings of 70,000 afa from lining the All-American Canal. (DWR 1, p. 56.) The water loss due to seepage in the All-American Canal is not reflected in Table 2 above.

The value for crop evapotranspiration (ET) reported in Table 2 above was calculated by subtracting the component of Salton Sea inflow derived from IID deliveries to farmers from the total value for IID deliveries to farmers. (DWR 1, p. 42.) The calculated value compared closely with DWR's revised estimate based on an empirical analysis. (DWR, 18, p. 6, Table 2.) The calculated value for ET reported in Table 2 equals about 66 percent of the water delivered to farmers.
The remaining 34 percent was assumed to consist of canal spills (2 percent) and tailwater plus leachwater (32 percent). Based on a review of available literature and consultation with local experts, the Department estimated that leachwater equals 15 percent of ET, which in this instance equals about 10 percent of deliveries to farmers.

The 380,000 afa reported in the table as tailwater is based on the assumption that tailwater equalled 15 percent since that is the maximum allowed under IID regulations. Based on estimates using IID data and estimates from Lee Hersmeir of the USDA Agricultural Research Station, however, the Department experts believe that tailwater is probably higher than 380,000 afa and may be as high as 558,000 afa. (DWR 17, pp. 8-11; DWR 1, p. 32.)

Assuming that tailwater equals 15 percent of deliveries, leachwater equals 10 percent of deliveries, canal spills equal 2 percent of deliveries, and ET equals 66 percent of deliveries, then the quantity of delivered water which is unaccounted for equals 7 percent of delivered water. This quantity of water is shown in Table 2 above as approximately 190,000 afa in the category of "Excess Leachwater and Tailwater". Due to the limited data available, the Department did not attempt to determine how much of this water was due to tailwater and how much was due to leachwater. The Department concluded, however, that approximately 7 percent of delivered water could be conserved through reduction of excess tailwater losses and excess leachwater losses. (DWR, 17, p. 10.)
Estimates Submitted by John Elmore

The engineering firm of Krieger and Stewart examined the data available from DWR, IID and Hess Geotechnical Corporation in the preparation of their estimates of water loss prepared for Mr. Elmore. (Elmore, 3, p. 2.) Although they examined data for the period 1965-1980, their estimates for the period 1976-1980 were selected for use in Table 2 above because it more closely matched the period studied by DWR.

Losses of water from IID were estimated by reviewing the estimates of DWR, IID and the Bureau of Reclamation, and applying independent judgment where possible. The Krieger and Stewart canal seepage estimate is based upon DWR estimates and was adjusted in proportion to the increase in canal lining in later years. (Elmore, 3, p. 12.) Similarly, Krieger and Stewart modified the DWR estimate for canal spills (2 percent of delivered water) because it was assumed that the two regulatory reservoirs constructed in 1976 and 1977 resulted in a reduction of canal spills by 30,000 af in 1978. They assumed that canal spills approximated 3 percent of IID deliveries before 1977, 2-1/2 percent during 1977, and 2 percent after 1977. They stated that this assumption was believed to be conservative. (Elmore, 3, p. 12.)

Krieger and Stewart estimated the composite leaching fraction for IID to be about 14 percent of net IID delivered water after adjusting for the percentage of net irrigated area which is tiled for leachwater. This estimate was based upon information from several experts on local leaching requirements, the recommended leaching requirements published in the IID 10-Year Report for 1977, and the annual inventory of
(Elmore, 3, p. 13.)

The quantity of tailwater was calculated by subtracting from IID
inflow to the Salton Sea, the previously derived values for rainfall
runoff entering the Sea, canal spills, canal seepage and leachwater.
For the period 1976 to 1980, tailwater was calculated to be an average
of 559,000 afa, or about 22 percent of IID delivered water. (Elmore,
3, pp. 13, T-4, Table 4.)

9.4

Estimates Submitted by Imperial Irrigation District

Bookman-Edmonston Engineering, Inc., prepared a water balance for the
Imperial Valley for the period 1977-1979 based on their review of IID
records and information developed by the Department of Water Resources
and other experts. (T, VIII, 154; IID, 16, Attachment 13.) Crop
evapotranspiration was based upon records of crops grown, and the
values for quantity of water used per acre as developed by DWR and
Kaddah-Rhoades. The quantity of leachwater was estimated by comparing
the quality of tile drainage water with that of the New and Alamo
Rivers and the All-American Canal. (T, VIII, 157, 23 - 158,12.)
Tailwater was calculated as the closure item of the portion of the
equation used in determining total IID inflow to the Salton Sea. (T,
VIII, 158, 11-21.)

9.5

Estimates Prepared by the United States Bureau of Reclamation

The U. S. Bureau of Reclamation (USBR) conducted an investigation of
water use within the Imperial Irrigation District to determine if
there were feasible measures to recover drainage water being lost to
the Salton Sea. Although some field measurements were made by the

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USBR staff and the IID staff in this cooperative venture, it was necessary to estimate some components of water loss. The estimates of water loss presented as evidence by the USBR are set forth in Table 1 on page 4 of USBR Exhibit 1. In cross-examination of the USBR witnesses, however, it was shown that a previous draft of the USBR report on water conservation within IID contained substantially different estimates of water losses attributable to various sources. (T, VI, 31,13 - 147,8; IID, 3, p. 9.) Portions of earlier USBR draft reports and related documents were presented as evidence to demonstrate the differences. (Elmore, 8 to 20.) Since there was no satisfactory resolution of the different values reflected in the various USBR documents, the Board was not able to rely upon the estimates stated in USBR Exhibit 1 in comparing water loss estimates within Imperial Irrigation District.

9.6 Conclusions Regarding Water Losses Within IID

The estimates of water loss shown in Table 2 above are based on periods of time when the inflow to IID at Drop No. 1 was approximately the same. Although the parties differed on the quantity of losses estimated for various components, their estimates of total water loss as a percentage of inflow at Drop No. 1 are relatively close, between 36 and 40 percent. The numbers stated in Table 2 provide a general guide to the likely range of values for water losses due to particular factors in IID. In view of the previously noted limitations in available data, the Board will not attempt at this time to refine the numbers further in order to derive its own water balance for the Imperial Valley.
As discussed in Section 10.0 below, there is considerable evidence that various components of the water loss within IID could be reduced through reasonable conservation measures. The lack of reliable information on the sources of water loss within IID, however, impedes the development of a comprehensive water conservation plan. In view of the maximum beneficial use requirement of Article X, Section 2 of the California Constitution, the Board concludes that the right to make use of a large quantity of water carries with it the responsibility to account for its use accurately. Therefore, the IID should develop reliable procedures for determining the disposition of all water imported by the District with an emphasis on (1) an accurate accounting of farm deliveries, (2) measurements of canal spills, (3) measurement of tailwater, and (4) either measurement or computation of leachwater and canal seepage. Since the components of total IID water losses will vary from year to year based on cropping patterns, total acreage under irrigation, and other factors, the District's water accounting procedure should be capable of normalizing the data in order to make the information comparable from year to year.

10.0 IRRIGATION PRACTICES AND OPPORTUNITIES FOR WATER CONSERVATION

The allegations in the complaint filed by John Elmore relate to water losses due to canal spills and excess tailwater. The Elmore allegations are addressed in Sections 10.1 to 10.5 below. In addition to information regarding the specific allegations of the Elmore complaint, evidence was also presented on related aspects of IID water management practices and on other opportunities for water conservation.
conservation. These subjects are addressed in Sections 10.6 through 10.8.

10.1 Maintaining Canals in "Overly Full Conditions"

The first allegation of the Elmore complaint states that in order to provide quick delivery service of irrigation water, canals are kept overly full to such an extent that overflow gates at the terminal ends of the canals frequently spill over into drains where the water is not subject to reuse.

There was testimony that maintaining a high water level assists in maintaining an accurate measurement and delivery to the farmer's headgate. If a high water level is maintained, fluctuations in canal flow have less effect on the rate of delivery than if the water level is low. Maintaining a uniform headgate delivery allows for a more efficient distribution of water throughout the field. (T, VII, 90.18 - 92.14.) No evidence was submitted to refute the need for maintaining a constant headgate delivery.

The problem of canal spills is increased if farmers reject part of their order as allowed by the 21-Point Program. Under this program a farmer may cut back his order by two cubic feet per second (cfs) if the system can accommodate the request. Also, a farmer may reject up to 50 percent or five cfs of his order, whichever is less, during the last 12 hours of a run. Although the rejected water is paid for by the farmer, it remains in the canals and may contribute to the canal spills. (T, IV, 36, 13-18; 21-Point Program items 1, m, n, p.) No record is kept of the amount of water rejected by the farmers and
therefore the extent of the problem this creates cannot be fully determined.

In addition to the unintentional spills, there are also operational spills which occur when canals are dewatered every four to eight weeks in order to control aquatic weeds. There was evidence submitted, however, that canals are spilling approximately 77 percent of the time. (T, V, 68, 20; SSPO, 16.) Therefore, it is reasonable to conclude that a large portion of canal spill losses are unintentional.

Since water spilled from the canals is lost without any beneficial consumptive use having been made, steps should be taken to improve the IID system so that operational flexibility can be provided without relying upon the storage capacity of the delivery canals. The regulatory reservoir program discussed below provides one means of increasing this flexibility.

10.2 Absence of Regulatory Reservoirs

The second allegation of the Elmore complaint states that the absence of regulatory reservoirs causes unnecessary delivery of excess amounts of water producing spillovers and runoff into the Salton Sea.

The IID has constructed four regulatory reservoirs to date and pledged to construct one a year until a total of 20 to 22 reservoirs are in operation. (IID, 10D.) Although the charge for water delivered by IID includes an assessment to generate the revenue for construction of reservoirs, reservoir construction was stopped because of economic problems. (T, VII, 87, 14-26.)
Regulatory reservoirs would help to reduce canal spills by creating needed storage to allow a greater flexibility for the District's water delivery practices and for the farmer in ordering water. (T, I, 50,15 - 51,06; T, III, 92, 04-09; T, VII, 87, 14-26.) The U. S. Bureau of Reclamation report presented by Robert McCullough states that large regulatory reservoirs and spill-interceptor systems also would produce a high degree of certainty on the increment of water that could be conserved. (T, V, 196, 24-26; USBR, 1, Table 6.)

The record indicates that Imperial Irrigation District and most other parties support the use of regulatory reservoirs. The District stated that the cost of the reservoirs and the difficulty of locating and obtaining the necessary reservoir sites have been the major obstacles to continuation of the reservoir construction program. (T, VII, 87, 14-26.)

Although testimony indicates that the regulatory reservoir program has been suspended, there was no evidence that the water conservation assessment included in the charge for water has been discontinued. If the revenue generated is to be used for the purposes for which it is collected, then the District will continue to have funds available for water conservation measures. The acknowledged benefits of the regulatory reservoirs support the conclusion that the reservoir construction program should be resumed.

**10.3 Excess Delivery of Water to Farmers' Headgates**

John Elmore's third allegation states that water should not be delivered in an amount greater than that actually needed by the farmer, and that provisions should be made to divert water to other
users when farmers miscalculate the amounts of water they actually need.

The District has no precise way of determining whether farmers' orders are reasonable or excessive. Therefore, the District provides all the water ordered. There was testimony that one-third to one-half of IID deliveries average 0.2 cfs more than was actually ordered. (T, I, 92, 7-16.) This results in excessive tailwater and/or rejected water at the headgate causing excessive water in the canals. (DWR 1, 25.)

The least expensive way to control wastewater is through careful ordering and proper application of water at the head end of the field. (T, I, 130, 16-19; T, VI, 14, 11 - 15, 02.) While there are many problems in ordering the right amount of water, the testimony indicates that the biggest problem is the "human factor". (T, VIII, 95, 06-07.) This highlights the need for a good educational program for water users. (See Section 10.8.)

10.4 Absence of Tailwater Recovery Systems

The fourth allegation of the Elmore complaint states that tailwater runoff which is currently draining directly into the sea could be captured by a recovery system and reused.

The volumes of tailwater runoff submitted in the water balance studies as listed in Table 2 range from 312,000 afa to 559,000 afa. As a percentage of delivered water, these quantities range from 13 percent to 22 percent. The IID's 21-Point Program specifies that 15 percent of the farmer's running order is the maximum tailwater that is allowed without penalty. Dr. Malek Kaddah testified that no one could defend tailwater and that even 10 percent was too high. (T, VII, 32,
However, on cross-examination, Dr. Kaddah indicated that 10-percent tailwater would be a realistic goal within the IID. (T, VII, 69, 7-26.)

The use of tailwater recovery systems to control excess runoff is not a widely used method within the District. John Elmore testified that he uses portable tailwater recovery systems and estimates the cost to be about $9 per acre-foot. (T, I, 112, 23; T, I, 114, 07.) Steven Elmore has used a tailwater recovery system for six or seven years but only for the germination of crops. (T, I, 98, 12-13.) During the remainder of the season his tailwater normally is within the authorized limits. He testified that he would recommend a recovery system any time there would be enough runoff that a triple charge could be assessed under the District regulations.

Jewel Meyer, of the University of California at Riverside, testified that while tailwater recovery systems are very effective, they are also expensive. The use of a recovery system can also cause increased crop scalding problems during hot periods of the year. (T, III, 80, 10-18; T, III, 75, 1-3.) Mr. Meyer also testified that excessive runoff can be reduced by a change in the IID's policies to allow for a more flexible delivery of water and by improved on-farm irrigation techniques. (T, III, 90, 11-14.)

John Kubler, who was recognized by other witnesses as an efficient irrigator, stated that farmers could approach the savings in runoff realized by a recovery system if their fields were leveled and they used better water management practices. In those areas where it was not economically feasible to level the fields, some method such as a
recovery system may be required. (T, VI, 23, 01-23.) Mr. Kubler also testified that limiting tailwater also requires flexibility in water delivery by the IID to allow adjustments by the farmers. (T, VI, 24, 05-25.)

There was testimony that a recovery system created a savings by returning fertilizers to the field that were lost through excessive runoff. (T, I, 99, 02-03.) However, there are also added costs such as added insurance, vandalism, and theft. (T, VI, 7, 12-15.) It also was suggested that by pumping tailwater back to the head of the field, localized areas of weeds and nematodes may be spread throughout the field. (T, VII, 7, 04-11.) There was expert testimony that reuse of tailwater does not present a problem due to increased salinity. (T, VII, 68, 09; T, VI, 6, 21-26.) There was also expert testimony, however, that the salinity increase in tailwater is a problem which should be examined. (T, VI, 205, 12.)

The record indicates there is excess tailwater that could be conserved. The use of a tailwater recovery system in some situations would be useful, while better on-farm water management practices would help in almost all cases. It was not adequately demonstrated that use of tailwater recovery systems should be required by the Imperial Irrigation District. If sufficient water can be conserved by better water ordering and other on-farm practices, this would be a more cost-effective method.

10.5 Requirements That Farmers Order Water in 24-Hour Delivery Intervals

The final allegation of the Elmore complaint states that the delivery of water cannot reasonably be terminated after the farmer receives...
sufficient amounts of water and the excess from the delivery drains unused into the sea. Mr. Elmore alleges that other potential water users are not contacted to use excess water, and miscalculation in estimating the amount of water needed by a farmer results in significant waste.

There was testimony that the requirement that water must be ordered in multiples of 24-hours means farmers tend to overorder. Because of these excessive orders and because the canals are kept full, rejection of water due to over ordering causes excessive canal spills. (T, V, 29, 16 - 30, 01.)

Sequential water delivery was cited as a method used in some areas, but one expert testified that it would not be workable in the Imperial Valley. (T, III, 75, 04-21.) He also testified that most of the districts on sequential irrigation are beginning to head toward a 24-hour or 36-hour demand system. While a demand system is more difficult for an irrigation district to manage, it has advantages for the growers. (T, III, 75, 22-26.) There was also testimony identifying the problems which could arise if a sequential delivery system resulted in farmers receiving their initial delivery of water at night. (T, VII, 100, 09-23.)

There was not sufficient evidence presented at the hearing from which the Board can determine that any particular change in the District's water delivery policy is feasible and should be implemented at this time. Water conservation which could be achieved through changes in delivery scheduling, however, presumably would not involve a large capital construction outlay. Therefore, the District should carefully
examine the possibility of implementing changes in the existing water delivery policy.

10.6 **Enforcement of Tailwater Restrictions**

In addition to evidence on the specific allegations of the Elmore complaint, evidence was presented on the importance of enforcing tailwater restrictions. Due to the relatively low cost of water within the IID, there is little incentive for many farmers to reduce tailwater. (T, V, 37, 12-18; T, V, 76, 9-14; Elmore, 8, p. 2; Elmore, 12, p. 11.) Therefore, reduction of tailwater losses depends to a large extent on effective enforcement of tailwater restrictions. However, several problems with the existing tailwater monitoring program were identified.

The first problem with the IID tailwater enforcement program, as reflected in District records for 1977-1981, is that only about 20 percent of the fields receiving water were checked for excessive tailwater. (Elmore, 3, p. 16.) A memo dated July 1, 1983, from Robert Wilson to the IID irrigation superintendents and the watermaster directs that the zanjeros are now to check tailwater from all fields receiving headgate deliveries. (T, IV, 7,19 - 9,22). Some questions were raised regarding the possibility of carrying out this directive with the existing workforce. (T, IV, 23,9 - 27,25.) Unfortunately, no records were introduced showing the extent to which the announced policy has been implemented in recent months.

A second problem with the existing 13-Point Program is that no assessment is levied for excess tailwater unless discharges equal 15 percent or more of the water being delivered on two successive
occasions at least 9 hours apart in a 24-hour period. (IIO, 100, p. 2.) Although there was evidence indicating that a single measurement should not serve as the basis for an excess tailwater assessment (T, VII, 11,18 - 12,12), the existing requirement that there be 9 hours between measurements appears to have the effect of impeding rather than promoting effective enforcement. (T, I, 60,70 - 61,1; T, I, 63,20 - 64,25.)

The third problem with present tailwater enforcement efforts is that the poor condition of tailwater structures and approach channels makes accurate tailwater measurement difficult. It is also difficult for a farmer to control tailwater if he lacks a convenient way of determining if tailwater exceeds allowable limits. The importance of maintaining tailwater structures is acknowledged by the second point of the 13-Point Program which provides for "reconstruction of farm outlet boxes as required". Robert Wilson testified that the District made a one-time effort to repair tailwater structures in 1976, but since that time maintenance of the boxes has been left to the individual farmers. (T, IV, 10,22 - 11,8.) A recent sampling of 82 tailwater structures selected at random showed that approximately 40 percent were damaged or sub-standard and should be replaced. In addition, approximately 65 percent of the approach channels were silted or filled with trash and weeds. (Elmore, 3, pp. 13-14; T, I, 75, 3-7.)

A fourth problem with the District's efforts to control tailwater is that the sanctions seem to be ineffective in reducing tailwater even when a violator is caught. U. S. Bureau of Reclamation documents were presented which indicate that the triple charges assessed for
tailwater violations are unlikely to promote substantial water conservation. (Elmore, 8, p. 8; T, I, R7,16 - 89,9.) Records of the IID Water Conservation Advisory Board also indicate that the present tailwater monitoring program has not altered the behavior of so-called "chronic wasters". (Elmore, 22, p. 1.) This evidence supports the conclusion that extensive tailwater monitoring and increasing the sanctions levied against those having repeated tailwater violations are necessary if enforcement of tailwater limitations is to be effective.

The estimates of tailwater discharge set forth in Table 2 range from 312,000 afa to 559,000 afa. Even the smallest of these estimates is a large quantity of water. The evidence presented indicates that the District's present tailwater enforcement program has been ineffective and that it could be significantly improved as discussed above.

Effective implementation of the District's announced policy requires, at a minimum, that tailwater structures be repaired and maintained, and that the District monitor all deliveries for excess tailwater as it contends it is now doing.

Irrigation Education Program

There was testimony from two farmers in the District that the least expensive way to control tailwater was by reducing the flow of water into the furrows at the head end of the field. (T, I, 130, 16; T, III, A1, 8.) However, a common practice is for farmers to order more water than needed to be sure of receiving enough to irrigate the entire field. This tendency to over order results in excess tailwater runoff. (T, VII, 97, 20-25.)
Virtually all of the evidence received indicates that an improved program of educating farmers and irrigators in better irrigation practices would have beneficial results. Engineer William Gookin testified that an educational water management program is needed and that it could be achieved with a small expenditure of funds. (T, V, 32, 23-26.) Such a program could reduce excess water orders without structural or capital costs. (T, V, 108,19 - 109,7.)

A representative of the IID Water Conservation Advisory Board, John Kubler, testified to what he considered to be four basic principles of good water management. First, the field must be graded for maximum uniformity of water distribution. Second, all structures related to delivery of water must be in good repair. Third, the water user, his foreman and the irrigators must understand the principles of good water management and the reasons for water conservation. The irrigators must be trained and closely supervised. Fourth, the farmer must order the right amount of water. (T, VI, 14,10 - 15,3.) The success which Mr. Kubler has had in reducing tailwater without use of a tailwater recovery system indicates what can be achieved by proper water management. (T, VII, 51,21 - 52,14.)

The potential for reducing tailwater by irrigation scheduling and other on-farm management techniques is also demonstrated by the results of a U. S. Bureau of Reclamation study involving approximately 38 farmers. At the outset of the study average tailwater runoff was estimated to range between 20 and 25 percent of delivered water. After implementing USBR suggestions and participating in the study for over a year, participating farmers were able to reduce tailwater to an average of 14 percent. (Elmore, 17, p. 28; T, VI, 65, 08-13.)
Imperial Irrigation District has taken some preliminary steps which indicate a growing recognition of the value of educating irrigators in improved on-farm management techniques. The District has hired a Supervisor of Water Conservation who works with farmers in developing water conservation plans, conducts irrigation scheduling and assistance programs, and works directly with irrigators in the field. (T, VI, 202,11 - 205,24.) In view of the extensive evidence regarding the effectiveness of improved on-farm management techniques in reducing tailwater and in view of the relatively low cost to the District, it is reasonable to expect the District to expand its present irrigation education program significantly.

10.8 Other Water Conservation Opportunities

The items discussed in Sections 10.1 through 10.7 relate primarily to reduction of water losses due to tailwater and canal spills. The two other large sources of water loss identified in the DWR Report of Investigation (DWR 1) and at the hearing were canal seepage and leachwater.

10.8.1 Lining Main Canals and Lateral Canals

The estimates of net seepage from main canals and lateral canals range from a low of 97,000 afa by the consultants for John Elmore to a high of 200,000 afa by the Department of Water Resources. (Elmore, 3, Table 4; DWR, p. 37.) The District has been involved in a canal lining program since the early 1960s in cooperation with local farmers. (IID, 4, p. 13.) The program has been criticized, however, because the priority for lining canals is established by those farmers who are willing to participate rather than by the District on the
basis of seepage losses. (T, I, 61, 15-20.) The relatively high cost of canal lining appears to be the main reason that the program has not been accelerated.

The Department of Water Resources estimates that the cost per acre-foot of water conserved by canal lining was $31 at 1981 prices, or roughly double the cost of recovering an acre-foot of tailwater. (DWR, 1, p. 59.) One advantage of canal lining, however, is that the potential water savings can be determined with a relatively high degree of certainty. Canal lining also reduces the cost of weed control and canal maintenance. (DWR, 1, p. 36.) Therefore, an expanded canal lining program may be a likely candidate for financing by an outside party in exchange for conserved water. There was insufficient evidence, however, for the Board to conclude that the IID should be directed to change its present canal lining program at this time.

10.8.2 Lining the All-American Canal

The Department of Water Resources also identified seepage losses from the All-American Canal as a potential target for water conservation. The Department estimated that relocating and lining the All-American Canal would result in water savings of 70,000 afa at an estimated cost of $115 per acre-foot. (DWR, 1, pp. 56, 59.) As in the case of lining main and lateral canals, the potential water savings could be determined with a high degree of certainty. However, the District

7 This estimate and other cost estimates in DWR Exhibit 1 are from a variety of sources and may not be based upon a common price index. The estimates are referred to in this decision to provide an indication of the relative expense of the suggested conservation measures.
could not reasonably be expected to finance the lining of the All-American Canal under present conditions unless outside funding were available.

10.8.3 Reduction of Leachwater
The Department of Water Resources was not able to arrive at firm estimates for leachwater. However, the Department concluded that if the quantity of water used for leaching were substantially over 15 percent of ET, there would be an opportunity of reducing leachwater by as much as 178,000 afa. (DWR, I, p. 49.) There was substantial evidence at the hearing, however, that leaching requirements in the Imperial Valley are unusually high and that they vary substantially according to local soil conditions. Although use of excessive leachwater should be avoided, there was insufficient evidence to establish that excessive leachwater is a widespread problem requiring corrective action at this time.

10.8.4 System Automation and Other Improvements
Some of the technical reports entered into the record discuss the potential for water conservation through system automation and other improvements not discussed in preceding sections. Some of these measures hold sufficient promise to justify further study, but there is insufficient evidence for the Board to require immediate implementation.

11.0 BENEFICIAL USES FOR CONSERVED WATER
An important consideration in evaluating what conservation measures should be pursued, and at what rate, is the existence of other beneficial uses of water which could be conserved. As discussed.
below, the evidence indicates that there are beneficial uses to be made of water conserved by IID and that in the near future there are likely to be substantial water shortages among California users of Colorado River water.

11.1 Use for Irrigation Within Imperial Irrigation District

Under the Supreme Court's decision in Arizona v. California, 439 U.S. 419, 429 (1979), Imperial Irrigation District has a present perfected right to divert a maximum of 2,600,000 afa at Imperial Dam. (See Section 7.4.) In accordance with its contract with the Secretary of the Interior, the District has been diverting approximately 2,900,000 afa. After the Central Arizona Project comes on line in 1985 or 1986, the District may have to conserve water to maintain its present irrigated acreage. (IID, 2, p. 15.) The quantity of water which must be conserved will depend on the rate of development of the Central Arizona Project, the water usage of other parties to the Seven-Party Agreement and future salinity of Colorado River water. There is also a potential to increase the irrigated acreage by developing the West Mesa, but much of this area is in federal ownership which prevents full development. (CRB, 1, p. 19.)

11.2 Coachella Valley Water District

The 1934 agreement between the IID and CVWD restricts the sale of any conserved water outside of IID if landowners within the CVWD need such water for reasonable irrigation purposes or for potable uses. (IID, 2, p. 14.) The CVWD has stated that it can beneficially use any salvaged water not used by the IID. (DWR, 1, Section V, p. 51.) A water conservation program that involves a third party would be subject to the 1934 agreement between the CVWD and IID.
11.3 Metropolitan Water District

The Metropolitan Water District has an existing contractual right to 1,212,000 afa from the Colorado River, subject to the prior rights of other users. MWD has been diverting about 800,000 afa in recent years. In some years, however, MWD has taken its full contractual entitlement of 1,212,000 af. Of the 4.4 mafa adjudicated to California by the U. S. Supreme Court, MWD holds a right to 550,000 mafa in a fourth priority among California water users. Thus MWD could face a 662,000 afa reduction from its current entitlement when the Central Arizona Project reaches full development. (T, IV, 86, 15-18; T, IV, 102, 14-16; CRB, 1, Table 2.) The water available to MWD will be reduced further by prior rights of Indians and present perfected right holders that were not a party to the Seven-Party Agreement. The full extent of the reduction depends on the outcome of pending litigation. (CRB, 1, pp. 11, 12.)

The above figures show that there will be a definite need for additional sources of water within the MWD in the near future. The statement by the MWD representative at the hearing confirms that MWD would be interested in utilizing water conserved in the Imperial Valley if IID determines that such a transfer is in its interest. (T, IV, 136; MWD brief, 1.)

11.4 Groundwater Storage

There are three major groundwater basins where Colorado River water could be used for recharge, or to replace state project water that could be used for recharge. These are the San Fernando, Chino and Coachella Valley Groundwater Basins. The San Fernando Basin has a
capacity of 1,500,000 af. The Chino Basin also has a capacity of 1,500,000 af and there is some groundwater storage occurring there presently. The use of Colorado River water by the MWD allows use of state project water for groundwater recharge in the Chino Basin. (T, VIII, 108,10 - 109,20.)

The Coachella Valley is presently overdrafted by 600,000 af. The contractual arrangements which have made it possible to recharge the groundwater basin in Coachella Valley provide an example of how a transfer/groundwater storage program might operate in other areas. (EDF, 3, p. 59.) In this example, a portion of the entitlements of the Coachella Valley Water District and the Desert Water District to State Water Project water are received by MWD. In exchange, the two districts take annual delivery of like amounts of MWD's Colorado River water entitlements. This water is diverted from the MWD Colorado River Aqueduct for recharging the Coachella Valley Groundwater Basin. MWD can provide "excess" quantities of Colorado River Water for groundwater recharge which are credited to its account. In time of water shortage, MWD can decrease its delivery of Colorado River water to the groundwater basin to the extent it has "credit" in previously stored groundwater, and use the Colorado River water within its own area.

11.5 Development of Geothermal Power

The Imperial Valley has one of the largest potential geothermal resources in the State. The U. S. Geological Survey delineated six "Known Geothermal Resources Areas" in the valley as part of a program authorized by the Geothermal Leasing Act of 1970. Leasing of federal lands began in 1974 and there are approximately 23 companies presently...
engaged in some facet of geothermal exploration in Imperial County.
(Board, 12, 58-59; T, VIII, 90, 03-04.)

An indication of the amount of water required for operation of a
geothermal plant was provided by Mr. Deter of the California Energy
Commission who stated that 50 to 100 af of water is needed for cooling
purposes for each megawatt year of electricity. Mr. Deter estimated
that geothermal development could require between 90,000 and 180,000
afa by the year 2002. (T, II, 16, 17-20.)

These figures indicate that if there is to be any significant
development of geothermal power in Imperial County, a large supply of
freshwater will be necessary. Use of water from the Salton Sea would
require expensive pretreatment that would add substantially to the
costs. (T, II, 17, 06-09.) Therefore, conservation of existing
supplies of freshwater provides the best source of water for local
geothermal development.

11.6 Economic Feasibility of Water Transfer

Preliminary investigations by both the Environmental Defense Fund and
the Bureau of Reclamation demonstrate the potential economic benefits
to IID resulting from water conservation and transfer of water by IID
to other users. (Elmore 8, p. 4; EDF, 3, p. 55.) The EDF analysis
shows it would be economically feasible for MWD to participate in
financing water conservation measures, if the conserved water were
made available for use within the MWD. The EDF analysis also
concludes that it would be in the economic interest of IID to
participate in a water transfer arrangement with MWD, even after
adjusting for the loss of hydroelectric generation which would result
from reduced flow in the IID system. (EDF, 3, p. 55.) The Bureau of Reclamation study of water conservation opportunities in IID makes a preliminary estimate that the benefit cost ratio of a transfer of conserved water to MWD is 4.41 to 1. (Elmore, 8, p. 4.) With the reduction in the water supply available to MWD from the Colorado River, sufficient capacity would be available in the Colorado River Aqueduct to handle any transfers from IID. A transfer of conserved water could partially satisfy future Southern California needs. (EDF, 3, p. 53; DWR, 1, p. 51.)

12.0 EFFECTS OF IID INFLOW ON THE SALTON SEA

12.1 Description and History of the Salton Sea

The Salton Sea is located at the bottom of a closed basin. Normal precipitation in the basin does not exceed evaporation so the continued existence of the Sea is dependent on the drainage from irrigation water imported from the Colorado River. The Sea has risen gradually since about 1920 in response to the increase in irrigation drainage from the Imperial and Coachella Valleys and Mexico. (Board, 12, pp. 11-12.) At various times in geologic history, the site of the present Salton Sea has been covered with water. As the water evaporated, salts accumulated in the soil which was the former lake bed. These salts were redissolved as the existing Salton Sea formed. Additional salts are brought into the Sea by the irrigation drainage water.

12.2 Water Level of the Salton Sea

The maximum annual level of the Salton Sea reached about -231 feet for several years during the period 1968-1971, but increased to a higher
level each year during the years 1972-1981. (Elmore, 3, Tables 1 and 3; IID, 16, Attachments 18 and 19.) During this period, it reached a maximum level of about -226.2 feet. (IID, 16, Attachment 16.) Examination of an area-capacity chart of the Salton Sea Basin shows that the rise of 4.8 feet in the annual maximum level flooded approximately 15,750 acres of adjoining private and public land. (Board, 12, Fig. 1.) The evidence received by the Board variously attributes the rapid increase in Sea level to drainage from IID (Elmore, 1, p. 3), a series of tropical storms (IID, 7, p. 2; CVWD, 2, p. 5), and an increase in the drainage from Mexico (CVWD, 2, p. 7). The average annual contribution of IID to Salton Sea inflow for the period 1965 to 1980 was about 71 percent. During the period 1972 to 1982, however, the average annual contribution by IID increased to 78 percent of total Salton Sea Inflow. (Elmore, 3, Table 3.)

Mr. Robert Wilson of Imperial Irrigation District testified that the slight decline in the water level of the Salton Sea during 1982 is one indication of the effectiveness of the District's current water conservation program. (T, IV, 21, 14-26.) However, more recent information from the United States Geological Survey shows that the water level of the Salton Sea in February of 1984 was the highest level recorded for February in approximately 70 years. (Records of USGS Field Station at Santee, Westmoreland Gage.) The Department of Water Resources reports that precipitation in the Colorado Desert Region for the period October 1, 1983, through April 30, 1984, averaged 70 percent of normal. (Department of Water Resources,

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8 The Board takes official notice of this information under California Administrative Code, Title 23, Section 733(e) and Evidence Code Section 452.
Therefore, it is questionable whether the continuing increases of the Salton Sea water level in recent months can be attributed to precipitation. It is apparent that the water conservation measures of the District have not been sufficient to control the rising elevation of the Salton Sea.

The rise in the level of the Salton Sea threatened to flood land farmed by the Elmore family and it was necessary for them to construct dikes around certain fields. (T, I, 95, 7; T, I, 108, 12.) As the Sea level increased, it became necessary to increase the size and strength of the dikes. It also became necessary to pump irrigation drainage water since the agricultural land was at a lower elevation than the surface level of the Sea. (T, I, 101,18 - 102,21.)

Although Imperial Irrigation District holds flooding easements over much of the property flooded by the Salton Sea, the flooding has resulted in significant damage and lawsuits against the District. (T, V, 69, 1-26; IID Brief, 9/27/83, p. 19.) There are numerous legal issues involved in these lawsuits including the validity of the easements, charges of negligence and the extent of damages. Resolution of these issues is not within the jurisdiction of the Board. The fact that productive property has been flooded, however, is a factor to be considered in evaluating the reasonableness of Imperial Irrigation District's use of water.

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9 The Board takes official notice of this information. (See Footnote 8.)
12.3 Salinity of the Salton Sea

The salinity of the Salton Sea increased from about 32,500 ppm in 1954 to about 39,000 ppm in 1975, causing concern for the fish life which supports a major recreation fishery. Reproduction of the fish is expected to fail at salinity levels above 40,000 ppm. (T, IV, 175, 20.) The adult fish would be adversely affected at salinity levels above 50,000 ppm. (T, IV, 176, 6.) Between 1975 and 1980, the salinity of the Sea decreased to about 38,000 ppm due to the large inflow of fresh water. However, as an indication of how rapidly changes can occur, the year-end Sea surface elevation decreased by only 0.3 foot between 1980 and 1982, but the salinity increased to about 39,000 ppm. (IID, 16, Attachment 18.)

12.4 Effects of Reducing Inflows to the Salton Sea

Since IID contributes approximately 70 percent of the inflow to the Salton Sea, it is clear that irrigation drainage from IID will be a major factor governing the future level and salinity of the Sea. The IID Board of Directors has announced a commitment in Resolution No. 8-84 to conserve 100,000 afa by July 1, 1985. (IID, Brief 2/1/84, Exhibit 1.) It has also recognized that it may be possible to conserve up to 400,000 afa. (IID, Brief 2/21/84, p. 19.) A long-term reduction of 100,000 to 400,000 afa in the IID contribution to Salton Sea inflow would have a significant effect on both the surface level and the salinity of the Sea.

Various other parties presented estimates of the water level and salinity of the Salton Sea under certain conditions of reduced inflow. The estimates differ because of differences in assumed conditions. Review of the Salton Sea Operation Studies prepared for
IID provides a general indication of the impact of reducing IID drainage to the Salton Sea. (IID, 16, Attachment 23, Sheet 12.) The following table contains a summary of three of these studies:

TABLE 3

ESTIMATED EFFECTS OF REDUCED INFLOW TO SALTON SEA

<table>
<thead>
<tr>
<th>Assumed Condition</th>
<th>Estimated Elevation as of 12/82 (Sea Level - Feet)</th>
<th>Elevation Difference from Historic (Feet)</th>
<th>Estimated Salinity as of 12/82 (PPT)</th>
<th>Salinity Difference from Historic (PPT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Historic Inflow</td>
<td>-227.55</td>
<td>---</td>
<td>39.8</td>
<td>---</td>
</tr>
<tr>
<td>2. Historic Inflow less 100,000 afa since 1975</td>
<td>-230.21</td>
<td>-2.26</td>
<td>43.3</td>
<td>+3.5</td>
</tr>
<tr>
<td>3. Historic Inflow less 200,000 afa since 1975</td>
<td>-232.95</td>
<td>-5.40</td>
<td>47.5</td>
<td>+7.7</td>
</tr>
</tbody>
</table>

It is difficult to predict accurately the level of inflow to the Salton Sea in the near future. The results from the studies shown above, however, demonstrate that the water level and salinity of the Salton Sea are sensitive to changes in the rate of inflow of the magnitude likely to result from expected water conservation measures. If other factors remain relatively constant, a long-term reduction in the average rate of IID inflow by about 100,000 afa would eventually stabilize the water level at or near the -227.55 level existing in December 1982. A more substantial long-term reduction of IID inflow would result in eventual stabilization of the Salton Sea at a lower level.
The beneficial effects of a moderate reduction in the current water level include alleviating flooding of private property, increasing land available for wetlands habitat (CWA, 1), and exposing presently submerged land for geothermal energy development. (T, VIII, 89,5 - 90-10.) These changes would in turn be expected to reduce IID's expenses from pumping irrigation drainage water (Elmore, 4, p. 17); to increase IID's revenue from the leases of District land for potential geothermal development (T, VIII, 90,11 - 92,23); and, possibly, to assist the District in resolving or avoiding lawsuits from property owners adjoining the Salton Sea whose land has been flooded.

It is impossible to predict when the salinity will adversely affect the fishery either with or without a planned reduction in IID inflow. However, the rapid rise in salinity between 1980 and 1982 shows that salinity could exceed 40,000 ppm, the danger level for fish reproduction, in less than five years whether or not a planned reduction in inflow takes place. Therefore, it is apparent that a prolonged delay in water conservation measures would not save the fishery for an appreciable length of time.

13.0 REVIEW OF IID WATER CONSERVATION MEASURES

13.1 13-Point Program and 21-Point Program

The measures taken by Imperial Irrigation District to promote water conservation are described in the "Report on Water Conservation" prepared by Bookman-Edmonston Engineering, Inc. (IID, 4.) Although the District pursued certain measures to conserve water prior to 1976, the District's first formal water conservation program was initiated in July 1976 by IID Board Resolution 45-76 which established the
13-Point Program. The provisions of the 13-Point Program were supplemented and clarified by the adoption of the 21-Point Program in 1980. The specific provisions of each program are set forth or summarized in several of the exhibits. (IID, 10D, pp. 2-7; IID, 4, pp. 6-13; DWR, 1, pp. 103-105.) The District acknowledges that the 21-Point Program "does not generally expand upon the water conservation measures set forth in the 13-point program but rather, defines policies...for administering and enforcing the 13-point program." (IID, 4, pp. 12, 13.)

Although several aspects of the 13- and 21-Point Programs are directed at conserving water, the programs do not establish a comprehensive water conservation plan nor do they establish a schedule for implementing specific water conservation measures. In addition, the evidence indicates that certain aspects of the programs have not been carried out on a regular basis or are not being carried out currently. For example, item 2 of the 13-Point Program calls for "reconstruction of farm outlet boxes, as required". In addition, IID Exhibit 4 refers to the "present program" of the District as including "[c]ontinuance of a program to reconstruct or install farm delivery boxes of standard design to provide accurate measurement and control of water deliveries...." (IID, 4, pp. 13, 14.) As discussed in Section 10.6, however, the testimony indicates that there was a one-time effort to repair tailwater structures in 1976, but that approximately 40 percent of the structures checked in a recent sampling were in need of repair or replacement. Similarly, item 4 of the 13-Point Program calls for "[d]aily inventory of surface field discharge...." This appears to imply checking all deliveries for
excess tailwater, yet, as discussed in Section 10.6, IID records for 1977-1981 indicate that only about 20 percent of the fields receiving water were checked for excessive tailwater. (Elmore, 3, p. 16.)

13.2 IID Response to DWR Request to Prepare a Water Conservation Plan

Following the conclusion of its investigation, the Department of Water Resources determined that there was water being wasted within Imperial Irrigation District which could be saved for beneficial purposes by use of widely accepted practices. In a letter dated December 1, 1981, the Department requested the District to prepare a water conservation plan which was to include specific elements, sources of funds, a schedule for implementation, and additional specified information. (DWR, 9.) The District's original response indicated a water conservation plan would be submitted. (IID, 10B.) The District later requested an extension of time to prepare the plan. (IID, 10C.)

In a letter dated September 29, 1982, to Jack Coe of the Department of Water Resources, however, the District stated its conclusion that its use of water "is reasonable and does not involve unnecessary waste". The District went on to enumerate the elements of its existing water conservation program, most of which had been considered previously in the DWR investigation. Contrary to earlier indications that the District would prepare a water conservation plan of the type requested, the September 29 letter clearly indicates that the District had decided against such action. The letter also states that the District Board of Directors pledged to construct one regulatory reservoir each year until a sufficient number (estimated to be 20 to 22) is in place to accomplish objectives. Finally, the letter states
that the District will "make certain that the various conservation programs, as amended, will be carried out to the letter without reservation". (IID, 10D.) As discussed in preceding sections, the District has not continued the regulatory reservoir program at the announced rate and there is considerable evidence that other elements of the District's own announced program have not been fully pursued.

13.3 **IID Board of Directors Resolution 8-84**

Following the close of the evidentiary portion of the Board hearing in this matter, on January 24, 1984, the IID Board of Directors adopted a resolution calling for reduction of IID inflow to the Salton Sea by 100,000 af/a by July 1, 1985. (IID Brief, 2/21/84, Exhibit 1.)

Although the resolution indicates the District's acknowledgement that an increased conservation effort is appropriate, the resolution does not state, except in very general terms, how the proposed water conservation would be achieved. Furthermore, the resolution does not specify the level of inflow to the Salton Sea from which the proposed reduction is to be measured. Without more details on what the District intends to achieve and the steps to be taken, it appears likely that July 1, 1985, will arrive and it will be impossible to determine whether or not the objective of Resolution 8-84 has been achieved. In order to resolve these problems, the District should (1) specify in advance the standard by which it intends to measure the reduction of inflow to the Salton Sea and (2) identify and implement specific water conservation measures directed at achieving the intended reduction of inflow.

10 The Board takes official notice of this information. (See Footnote 8.)
NEED FOR A COMPREHENSIVE WATER CONSERVATION PLAN

Imperial Irrigation District has taken several steps to promote water conservation over the last several years and there is evidence that a considerable effort to conserve water has been made by some of the farmers in the District. As discussed above, however, the evidence also establishes that there are additional steps which should be taken to develop a more effective water conservation program. Some of these measures such as maintenance of tailwater structures and better tailwater monitoring are called for under announced District policy, but have not been fully or consistently implemented. Other water conservation measures are not required under existing District policy, but would be in the interests of the District as well as in the overall interest of maximizing beneficial use of water.

The primary responsibility for evaluating and implementing potential water conservation measures for IID lies with the District itself. The fact that the District has the primary responsibility, however, does not justify non-performance of that responsibility. In December of 1981 the Department of Water Resources advised the Board of Directors of its conclusion that a misuse of water was occurring and requested the District to prepare a detailed water conservation plan. Now, some two and one-half years later, this Board concludes that development and implementation of a detailed water conservation plan for Imperial Irrigation District are still necessary in order to make maximum beneficial use of available water in accordance with Article X, Section 2 of the California Constitution. The IID water conservation plan should address the subjects specified in the order which follows.
CONCLUSION

Approximately one million acre-feet per year of Colorado River water enter the Salton Sea as irrigation return flow from Imperial Irrigation District. This large quantity of freshwater is lost to further beneficial consumptive use and has contributed to the flooding of property adjoining the Salton Sea. Following diversion of major quantities of water by the Central Arizona Project which is scheduled to begin in late 1985 or 1986, there will be insufficient water available from the Colorado River to satisfy the existing level of demand of California water users. Although Imperial Irrigation District has taken some steps to conserve water, the evidence establishes that there are additional practical measures available to reduce the present losses of water within the District. Under the circumstances of this case, the Board concludes that the failure to implement additional water conservation measures at this time is unreasonable and constitutes a misuse of water under Article X, Section 2 of the California Constitution and Section 100 of the California Water Code.

The water conservation measures which the Board has determined should be implemented as soon as possible are specified in Paragraphs 1.1, 1.2, 1.3 and 1.5 of the order below. The required measures will assist in reducing the amount of excess tailwater and canal spills, but will not limit the amount of water necessary for effective irrigation and leaching of fields. The evidence supports the conclusion that the required measures are reasonable and, in most instances, are already called for, but not fully implemented, under
the District's announced policies. The record also establishes that additional water conservation would have several beneficial effects for the Imperial Irrigation District and the farmers within the District.

Other water conservation measures identified in the hearing record can be evaluated in the preparation of a comprehensive water conservation plan. Efficient water management and development of a water conservation plan will be facilitated by the availability of accurate information regarding quantities of water losses attributable to various aspects of irrigation and water delivery operations. Therefore, Imperial Irrigation District should develop reliable procedures for determining the disposition of all water which it imports through the All-American Canal.

ORDER

IT IS HEREBY ORDERED that Imperial Irrigation District shall do the following:

1.1 Submit evidence to the Board by February 1, 1985, demonstrating that the District has fully implemented its announced policy of monitoring the tailwater discharge of all fields receiving water deliveries.

1.2 Repair or require the water users within the District to repair defective tailwater structures and approach channels by February 1, 1985. The District shall also submit a plan by February 1, 1985, to ensure that the tailwater structures and approach channels are properly maintained on a continuing basis.

1.3 Develop and submit by February 1, 1985, a water accounting and monitoring procedure which will result in quantifying the following
with reasonable accuracy: (1) actual deliveries to farmers' headgates, (2) tailwater, (3) canal spills, (4) canal seepage, and (5) leachwater. The water accounting procedure shall be capable of normalizing the data in order to make the information comparable from year to year. The District shall specify a schedule for implementing the water accounting procedure.

Submit a detailed and comprehensive water conservation plan by February 1, 1985, which includes the following elements:

a. **Tailwater Control:** The plan shall specify maximum acceptable tailwater limits and shall state how such limits were determined. A means of reducing tailwater from all deliveries to the specified limits within one year of the plan's initial implementation shall be specified. The plan shall describe an accurate method to be used for measuring tailwater from fields receiving deliveries. The plan shall include an evaluation of the present tailwater monitoring program, particularly the requirement that assessment for excessive tailwater must be preceded by two measurements at least nine hours apart. The plan shall specify in detail the role which an expanded irrigation education program will play in assisting to reduce tailwater.

b. **Canal Spills:** The plan shall identify the quantity of water lost in operational spills needed for occasional dewatering of unlined canals. The plan shall specify methods by which unintentional canal spills can be eliminated and shall establish a schedule for implementing such methods.
c. **Canal Seepage:** The plan shall include a priority list of canals or portions of canals which need improvements to reduce canal seepage. The most feasible method of financing those improvements shall be identified and a schedule for making the improvements shall be established.

d. **Leachwater:** Minimum leaching requirements shall be discussed. An evaluation of current leaching practices within the IID shall be made to assess the potential for savings from reduced leachwater application. Leaching requirements shall be specified for each of the major crops grown in the IID.

The water conservation plan shall specify the estimated costs of implementing the selected measures, the method of financing each measure, the schedule for implementation, and the persons who will be responsible for implementation of each selected measure. The plan shall also describe the measures implemented to achieve the District's announced goal of reducing inflow to the Salton Sea by 100,000 acre-feet per annum by July 1, 1985. A report on the progress to date in meeting this goal shall be provided.

Submit a plan to the Board by February 1, 1985, for resumption of the regulatory reservoir construction program. This plan shall identify the number of reservoirs to be built, the time schedule for construction and the proposed method for financing the program. The development of this plan shall be guided by the letter dated September 29, 1982, from former IID Board of Directors' President Gerald Moore to Jack Coe of the Department of Water Resources pledging to construct one reservoir per year.
1.6 Submit a progress report to the Board by October 1, 1984, specifying the steps that have been taken to comply with provisions 1.1 through 1.5 above. The Chief of the Division of Water Rights shall inform the District of specific information to be submitted in the progress report.

IT IS FURTHER ORDERED that:

2.1 Following submission of the plans required in provisions 1.2 through 1.5, the Board will review said plans for their adequacy to meet the specified objectives and the schedule for implementing the proposed actions.

2.2 After the Board determines that a plan is adequate to meet the specified water conservation objectives, the District shall submit progress reports every six months until the objectives have been achieved.

2.3 If the Board determines that a plan is inadequate to meet the specified objectives, the District shall submit a revised plan in accordance with further direction from the Board.

IT IS FURTHER ORDERED that:

3.1 The Board reserves jurisdiction in this matter for the purposes of reviewing the adequacy of the required plans and District actions, to monitor the progress of the District in carrying out the various elements of the water conservation plan, and to take such other action
as may be appropriate. The Board will continue to reserve jurisdiction until it determines that the requirements of Article X, Section 2 of the California Constitution are being met.

Dated: JUN 21 1984

Carole A. Onorato
CAROLE A. ONORATO, Chairwoman

Warren D. Notehaver
WARREN D. NOTEWARE, Vice-Chairman

Kenneth W. Willis
KENNETH W. WILLIS, Member