2017 Exchange and Transfer Agreement Term Decision

Imported Water Committee
Special Meeting
September 14, 2017
Today’s Presentation

Background on QSA Agreements and 2017 decision

Alternative Colorado River Conveyance

Basin States Issues
December 31, 2017 Decision

Extend Exchange Agreement Term with MWD 10 years (2037 to 2047)

OR

Reduce Transfer Agreement Term with IID 10 years (2047 to 2037)

No impact on 110-Year supply from AACLP or CCLP
1998 Transfer Agreement

- Efficiency-based water conservation
- Initial 45-year term extendable to 75 years
- Initial price indexed at a discount to MWD rates and charges
- “Market Based Pricing” formula when transfer market matures
QSA Agreements and Amendments

- Provided 800,000 AF of water to the Salton Sea to mitigate salinity and elevation impacts from the transfer
- Resolved disputes related to socioeconomic impacts
- Provided funding for efficiency-based conservation
- Placed transfer supply costs on a stable price index
- **Granted the Water Authority the unilateral ability to reduce the transfer to 35-years at the end of 2017**
Amended and Restated Exchange Agreement

- Provides reserved capacity of 277,700 AF/YR in the Colorado River Aqueduct
- Initial transportation rate set at $253/AF with 5-Year litigation timeout
- 35-year term with potential 10-year extension
- Allows for use of “alternative conveyance facilities” with five year notice
Alternative Conveyance: Imperial Valley Pipeline

1940 Proposed Project → 1946 AAC-SD Connection Study by BOR → 1998 Supply from the East Report → 2013 Master Plan

Conveyance Routes from the 1951 Memoirs of "Colonel" Ed Fletcher
Imperial Valley Pipeline Alignment Options

San Vicente Reservoir

Corridor 5C

Corridor 5A

All American Canal
Imperial Valley Pipeline Alignment Options
Imperial Valley Pipeline Alignment Options
## Imperial Valley Pipeline Alignment Options

![Map of Imperial Valley Pipeline Alignment Options](image)

<table>
<thead>
<tr>
<th></th>
<th>Corridor 5A &quot;TUNNEL&quot;</th>
<th>Corridor 5C &quot;PIPELINE&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Capital Cost ($2017)</td>
<td>$2.4 Billion</td>
<td>$2.7 Billion</td>
</tr>
<tr>
<td>Annual Operations &amp; Maintenance</td>
<td>$76.7 Million</td>
<td>$144.1 Million</td>
</tr>
<tr>
<td>Pipeline/Tunnel Length</td>
<td>84 Miles</td>
<td>92 Miles</td>
</tr>
<tr>
<td>Pump Stations</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Hydro Facilities</td>
<td>0</td>
<td>2</td>
</tr>
</tbody>
</table>
Imperial Valley Pipeline: Environmental and Other

- Environmental conditions analyzed in multiple studies dating back to 1996
- SDGE Sunrise Powerlink project and 2008 Eastern San Diego County Resource Management Plan helped inform updated assessment
- Compliance and permitting largely unchanged in 2013 study update
- Land use, extreme terrain and unknown geological conditions will need further examination
Colorado River water has a long-term average TDS of 879 mg/L while MWD untreated water supply below Hoover dam is 723 mg/L.

Blending in the San Vicente Reservoir and centralized treatment facility in Imperial Valley studied as project options.

Because blending reflected no significant cost it was chosen as the preferred alternative.
Binational Aqueduct

- Minute 301 to U.S. Treaty With Mexico (1999) established the scope and structure of a **Regional Colorado River Conveyance Feasibility Study** between the U.S. and Mexico (study completed in 2002)

- 10 conveyance alignments analyzed
  - All alignments begin at Drop 1 of the All American Canal
  - System designed to carry 300,000 AF for the U.S. and 200,000 AF for Mexico
15

$4.4\ B \text{ total capital cost with annual O&M at } \$15.3M$

$\text{Water Authority share } = \$3B \text{ in capital and } \$11.2M \text{ in O&M}$
Preferred U.S. Alignment
Preferred U.S. Alignment

Tunnel from El Capitan Reservoir to San Vicente Reservoir

Pipeline crossing U.S. / Mexican Border near Cotton Wood Creek
Legal Framework for Binational Project

Under the 1944 Treaty the U.S. and Mexico sections of the International Boundary and Water Commission (IBWC) handle all matters related to:

- Distribution of Colorado River waters between the two countries and delivery of Colorado River water to Mexico
- New Treaty Minute would be required for this project

The Water Authority would be required to:

- Prepare and certify all state and federal environmental requirements for portions of the project in the U.S.
- Obtain a Presidential Permit from U.S. Dept. of State
- Amend the current Domestic Water Supply Permit from SWRCB Division of Drinking Water

Mexico's obligations similar to Water Authority
Basin States Issues

Hydrology and Shortage Projections

Lower Basin Drought Contingency Plan

Mexico Treaty Update (Minute 323)

Impacts on Water Authority
Hydrology in the Basin

- Extended drought conditions since 2000
- On the brink of a shortage declaration
- 2013 Basin Study shows discrepancy between future supply and demand
- Development of Drought Contingency Plan
Hydrology update for 2018

- Finalized based on August projections by Bureau of Reclamation
- Above average release from Lake Powell (9 MAF)
- Full allocations to Lower Basin users in 2018 (No shortage)
- 2019 projection falls just above shortage trigger of 1,075’
## Lower Basin Shortage Projections

### Projections from August 2017

<table>
<thead>
<tr>
<th>Shortage Condition</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st Level (Elevation 1,075 to 1,050 ft)</td>
<td>0</td>
<td>15</td>
<td>40</td>
<td>35</td>
<td>33</td>
</tr>
<tr>
<td>2nd Level (Elevation 1,050 to 1,025 ft)</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>10</td>
<td>15</td>
</tr>
<tr>
<td>3rd Level (Elevation below 1,025 ft)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>5</td>
</tr>
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</table>

### Projections from April 2017

<table>
<thead>
<tr>
<th>Shortage Condition</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
<td>31</td>
<td>32</td>
<td>34</td>
<td>39</td>
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Based on Bureau of Reclamation data
Drought Contingency Plan (DCP)

- Negotiations on hold to focus on Minute 323
- Lower Basin users take voluntary cuts beyond current shortages
  - Voluntary CA cuts from 200,000-350,000 AF starting at elevation 1045’
  - CA users cut proportional to their average annual diversion
- Conserved water only, recoverable with limitations
- Expires with 2007 Guidelines in 2026
Minute 323
Formally known as Minute 32X

- Builds upon and extends Minute 319
  - Continued shortage sharing
  - Updated environmental component ($40M and 45,000 AF/YR)
  - Additional U.S. funded projects ($32M for 229,000 AF)

- Includes Mexican version of DCP, contingent on implementation of *fully effective* U.S. DCP
  - Water Scarcity Contingency Plan with identical implementing details to DCP

- Signing September 26
- Expires with 2007 Guidelines in 2026
Reductions under DCP & Minute 323

Lake Mead Elevation

<table>
<thead>
<tr>
<th>Elevation</th>
<th>CA</th>
<th>AZ</th>
<th>NV</th>
<th>Mexico</th>
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</thead>
<tbody>
<tr>
<td>1,075’</td>
<td>350</td>
<td>512</td>
<td>21</td>
<td>80</td>
</tr>
<tr>
<td>1,050’</td>
<td>592</td>
<td>512</td>
<td>25</td>
<td>104</td>
</tr>
<tr>
<td>1,025’</td>
<td>720</td>
<td>512</td>
<td>30</td>
<td>275</td>
</tr>
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</table>

- **2007 Interim Guidelines**
- **Drought Contingency Plan**
Applicable when Secretary of the Interior declares an “official shortage” to IID’s Priority 3 water right per 1998 Transfer Agreement

- Water Authority reduction to be proportionate reduction to IID’s
- Department of the Interior has represented that the DCP will not be an “official shortage”, rather a voluntary reduction

<table>
<thead>
<tr>
<th>Volume (AF)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Conserved Water Transfer</td>
<td>200,000</td>
</tr>
<tr>
<td>IID Priority 3 Water Right</td>
<td>3,100,000</td>
</tr>
<tr>
<td>Secretarial Reduction to</td>
<td>210,000</td>
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<tr>
<td>Priority 3</td>
<td></td>
</tr>
</tbody>
</table>

**Shortage Formula:**

\[
\frac{200,000}{3,100,000} \times 210,000 = 13,548
\]
DCP Impact on Salton Sea

Changes in Place of Use and Point of Diversion Require Significant Environmental Review and State Water Board approval