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13 **BEFORE THE**
STATE WATER RESOURCES CONTROL BOARD
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15 **STATE OF CALIFORNIA**

16 In re Petition of Imperial Irrigation District and) **EXPERT WITNESS STATEMENT OF**
San Diego County Water Authority for) **DENNIS B. UNDERWOOD**
17 Approval of Long-Term Transfer of Conserved)
Water and Changes in Point of Diversion, Place)
18 of Use and Purpose of Use Under Permit No.)
7643)
19

20 **I. INTRODUCTION**

21 My name is Dennis B. Underwood. I am currently a Vice President with The Metropolitan
22 Water District of Southern California (Metropolitan) in Los Angeles. I have the executive manage-
23 ment responsibility for Metropolitan's Colorado River resources and am actively involved in
24 California's efforts to reduce its use of the Colorado. Prior to joining Metropolitan in 1999 I headed
25 my own consulting business in water resource management. From 1989 to 1993 I was appointed as
26 Commissioner of the Bureau of Reclamation, U.S. Department of the Interior. From 1978 to 1989 I
27 served as executive secretary and then executive director of the Colorado River Board of California.
28 I have also served with the California Department of Water Resources and the U.S. Army Corps of

1 Engineers.

2 In a number of these capacities I have directed and managed numerous Colorado River
3 related programs involving large-scale, water, energy, environmental protection, endangered species,
4 transportation, utility infrastructure, and numerous other matters having to do with ecology and the
5 environment. I have also been an advisor to business and governmental entities, including the
6 United Nations.

7 I have been subpoenaed to provide this testimony by the San Diego County Water Authority.
8 Metropolitan is not a party to this proceeding but is separately submitting a policy statement.

9 Metropolitan is actively engaged with Coachella Valley Water District (CVWD), Imperial
10 Irrigation District (IID), and San Diego County Water Authority (SDCWA) (collectively, the
11 Agencies) in the implementation of California's Colorado River Water Use Plan (California Plan)
12 and the associated Quantification Settlement Agreement (QSA) to reduce California's dependency
13 on Colorado River water. Metropolitan, in coordination with others, is undertaking the development
14 of voluntary cooperative water conservation/transfers, water storage and conjunctive use programs,
15 other cooperative water supply programs, water exchanges, dry-year supply programs, and Colorado
16 River interim surplus guidelines' agreements as part of the effort to reduce the state of California's
17 Colorado River water use to its basic annual apportionment of 4.4 million acre-feet, a reduction of
18 about 800,000 acre-feet per year from its highest use of about 5.2 million acre-feet per year in the
19 past ten years.

20 In addition to these efforts, Metropolitan has undertaken major investments to lessen its
21 demand for imported water, meet future demands, and improve supply water quality. This is being
22 done through significant investments in increased water conservation, recycling, local projects,
23 groundwater recovery programs, in-service area storage and conjunctive use projects, watershed
24 management, source-water quality protection, and improved desalting and other water treatment
25 technologies. Coordination of these efforts is carried out through Metropolitan's Integrated
26 Resources Plan and the Plan's strategies of supply reliability and affordability, and water quality
27 enhancement and protection.

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1 This testimony provides a brief overview of Metropolitan-specific efforts, within the frame-
2 work of the California Plan, to increase its water supply reliability, diversify its sources of supply,
3 reduce the region's reliance on imported water, and improve the effective use of local water supplies.
4 It is important to understand that successfully meeting the conditions and milestones of the Depart-
5 ment of the Interior's Interim Surplus Guidelines is critical to a successfully implemented California
6 Plan. The 1998 IID/SDCWA Water Conservation and Transfer Agreement will be a vital compo-
7 nent of California Plan strategy for meeting the Interim Surplus Guidelines. Metropolitan supports
8 implementation of the IID Water Conservation and Transfer Project and has entered into a Protest
9 Dismissal Agreement with SDCWA and IID which has been transmitted to this Board.

10 Metropolitan is a public agency established under the authority of a legislative act in 1928 to
11 secure imported water supplies for its member agencies. Metropolitan's 5,200-square mile service
12 area stretches some 200 miles along the coastal plain of southern California and encompasses parts
13 of Los Angeles, Orange, Riverside, San Bernardino, San Diego, and Ventura Counties. More than
14 17 million people reside within Metropolitan' service area.

15 Today, Metropolitan provides over 50 percent of the water used within its service area.
16 Metropolitan receives water from two principal sources, the Colorado River, via the Colorado River
17 Aqueduct, and the State Water Project, via the California Aqueduct. To further help meet the water
18 needs of member agencies, Metropolitan assists in the development and effective use of local
19 resources, beginning in the late 1950s with cooperative groundwater recharge programs and
20 evolving over time to member agency partnerships for water conservation, water recycling, ground-
21 water recovery, and water storage and conjunctive use programs.

22 The 444-mile State Water Project (SWP) is owned by the State of California and operated by
23 the California Department of Water Resources. The SWP transports water released from Oroville
24 Dam and flows that have traveled into the San Francisco Bay/Sacramento-San Joaquin Delta Estuary
25 (Bay/Delta), south via the California Aqueduct to four delivery points near the northern and eastern
26 boundaries of Metropolitan. Metropolitan is one of 29 agencies that have contracts for water service
27 with the California Department of Water Resources.

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1 Metropolitan's SWP contract is for a total of 2,011,500 acre-feet per year. The contracted
2 amount was increased in 1964 from 1,500,000 acre-feet per year principally to offset the impending
3 loss of a portion of Metropolitan's Colorado River supply resulting from the 1963 United States
4 Supreme Court decision in *Arizona v. California*. Improvement of the supply reliability of the SWP
5 and the development of comprehensive long-term solutions to the environmental problems in the
6 Bay/Delta system are the focus of the CALFED process and legislation.

7 Under "The Law of the River", California is apportioned the use of 4.4 million acre-feet from
8 the Colorado River each year plus one-half of any surplus water that may be available for use in the
9 three states of Arizona, California, and Nevada. Metropolitan has a legal entitlement to Colorado
10 River water under a permanent service contract with the Secretary of the Interior.

11 The Colorado River Aqueduct, which is owned and operated by Metropolitan, transports
12 water from the Colorado River approximately 242 miles to its terminus at Lake Mathews in
13 Riverside County. It has the capability to divert about 1.3 million acre-feet per year. Under the
14 priority system that governs the distribution of Colorado River water made available to California,
15 Metropolitan holds the fourth priority right to 550,000 acre-feet per year. This is the last priority
16 within California's annual basic apportionment of 4.4 million acre-feet. Metropolitan holds the fifth
17 priority right to 662,000 acre-feet of water per year, which is in excess of California's annual basic
18 apportionment. Historically, Metropolitan has been able to take advantage of its fifth priority right
19 as a result of the availability of surplus water and Colorado River water apportioned but unused by
20 Arizona and Nevada.

21 Over the last ten years, California entities have diverted 4.5 to 5.2 million acre-feet annually
22 from the Colorado River, relying on system surpluses and apportioned but unused waters of Arizona
23 and Nevada that will not be available in the future. The Colorado River Board of California, in
24 consultation with the California Department of Water Resources, Metropolitan, CVWD, IID, Palo
25 Verde Irrigation District (PVID), SDCWA, the City of Los Angeles, and others, has developed Cali-
26 formia's Colorado River Water Use Plan. The California Plan provides a framework and timetable
27 for the reduction of California's use of Colorado River water to its annual basic apportionment
28 through reallocation of water supplies among the involved water agencies (voluntary water

1 conservation/transfers), cooperative water storage and conjunctive use programs, and by other
2 means.

3 If no new agreements were executed and no surplus water were available, Southern
4 California would face a total reduction of Colorado River water supply of about 800,000 acre-feet
5 per year. The statewide economic and environmental consequences of this shortfall would simply
6 not be acceptable. There is no substitute for success in implementing a plan for reducing California's
7 dependency on Colorado River water that is acceptable to the Secretary of the Interior and the other
8 Colorado River Basin states.

9 Multi-billion dollar investments and contributions that have been and are being made by
10 Metropolitan or by Metropolitan in cooperation with others that directly reduce California's depen-
11 dence on Colorado River water include:

12 **II. COLORADO RIVER WATER AGRICULTURE TO URBAN WATER TRANS-**
13 **ACTIONS**

- 14 ▪ December 1988 IID/MWD Water Conservation and Use of Conserved Water Agree-
15 ment and Associated 1989 Approval Agreement - yield of 100,000 to 110,000 acre-
16 feet per year (QSA core component) [PROJECT OPERATIONAL]
- 17 ▪ April 1998 Water Conservation and Transfer Agreement between IID and SDCWA -
18 yield of 130,000 to 200,000 acre-feet per year, and August 1998 Water Exchange
19 Agreement between SDCWA and MWD (QSA core component and the former being
20 the subject of this proceeding)
- 21 ▪ Coachella Canal [scheduled to begin construction October 2002] and All-American
22 Canal [scheduled to begin construction September 2003] Lining Projects - yield of
23 94,000 acre-feet per year, including 16,000 acre-feet per year to facilitate
24 implementation of the San Luis Rey Indian Water Right Settlement (QSA core
25 component)
- 26 ▪ May 1992 PVID/MWD Land Management, Crop Rotation, and Water Supply Test
27 Program - yield of 186,000 acre-feet from 1992 to 1994 [PROJECT COMPLETED]
- 28 ▪ Proposed PVID/MWD Land Management, Crop Rotation, and Water Supply

1 Program- yield of up to 111,000 acre-feet per year [PRINCIPLES OF AGREEMENT
2 APPROVED]

- 3 ▪ Acquisition of San Diego Gas and Electric Company properties in the Palo Verde
4 Valley area for inclusion in the PVID/MWD proposed program [ACQUISITION
5 COMPLETED]

6 **III. INVESTMENTS IN COLORADO RIVER WATER STORAGE PROGRAMS**

- 7 ▪ June 1984 MWD/CVWD/Desert Water Agency Advance Delivery Agreement –
8 multi-year yield of 600,000 acre-feet based on total storage capability [PROJECT
9 OPERATIONAL]
- 10 ▪ October 1992 MWD/Central Arizona Water Conservation District Demonstration
11 Project on Underground Storage of Colorado River Water - yield of 81,000 acre-feet
12 [STORAGE COMPLETED]
- 13 ▪ Proposed Colorado River Storage and Conjunctive Use Programs –with a goal of
14 3 million acre-feet of collective storage and a collective put-and-take of between 0.3
15 and 0.4 million acre-feet per year:
- 16 ▪ Hayfield Valley - 800,000 acre-feet of storage, recharge and recovery of 150,000
17 acre-feet per year [IN PROGRESS]
- 18 ▪ Chuckwalla Valley - 500,000 acre-feet of storage, recharge and recovery of 150,000
19 acre-feet per year [UNDER EVALUATION]
- 20 ▪ Cadiz Valley - 1 million acre-feet of storage, recharge and recovery of 150,000 acre-
21 feet per year including potential withdrawal of native groundwater [FINAL EIS
22 RELEASED]
- 23 ▪ Lower Coachella Valley - recharge and recovery of 100,000 acre-feet per year over a
24 ten year cycle [UNDER EVALUATION]
- 25 ▪ Arizona - 1 million acre-feet of storage [UNDER EVALUATION]

26 Storage and conjunctive use programs in Lower Coachella Valley and Arizona would pro-
27 vide the capability of storing Colorado River water when the Colorado River Aqueduct is being fully
28 utilized for operational reasons, including transport of water stored in off-aqueduct groundwater

1 basins.

2 **IV. SECRETARY OF THE INTERIOR'S COLORADO RIVER INTERIM SURPLUS**
3 **GUIDELINES**

4 The final Department of the Interior's Colorado River Interim Surplus Guidelines (Guide-
5 lines) provide a crucial transition to reliance on reduced Colorado River supplies. The Guidelines
6 provide a 15-year period for California to transition to live within the state's basic 4.4 million acre-
7 foot annual apportionment of Colorado River water. During the transition period, the use of surplus
8 water would transition down as the measures to reduce California's use of Colorado River water are
9 implemented.

10 Continuation of the Guidelines for the full 15-year period is contingent on California making
11 specific measurable annual progress in the reduction of Colorado River water use to meet specific
12 benchmarks at three-year intervals during the transition period. The first critical progress deadline is
13 the execution of the QSA by December 31, 2002. The Guidelines specifically provide that unless
14 the QSA is executed by that date, the Guidelines will be suspended until such time as California
15 completes all required actions and complies with reductions in water use reflected in the Guidelines.
16 If the QSA is not executed by this deadline, the additional surplus water provided under the Guide-
17 lines could be revoked as early as calendar year 2003. Loss of the surplus water at that point would
18 likely result in serious economic disruption, renewal of controversy among the Agencies, and an
19 unraveling of the California Plan.

20 **V. OTHER COLORADO RIVER WATER MEASURES FOR IMPROVED RESERVOIR**
21 **SYSTEM OPERATIONS AND WATER CONSERVATION**

- 22 ▪ Metropolitan's Interim Surplus Guidelines Agreement with Arizona [EXECUTED]
- 23 ▪ Proposed Metropolitan's Interim Surplus Guidelines Agreement with Southern
24 Nevada Water Authority [IN PROGRESS]
- 25 ▪ Secretary of the Interior's Final Rule on Offstream Storage of Colorado River Water
26 (Interstate Banking) [EXECUTED]
- 27 ▪ Proposed Small Offstream Water Management Reservoirs and Associated Facilities
28 near the All-American Canal [INITIATE ENVIRONMENTAL DOCUMENTATION

1 AND DESIGN IN 2002]

2 VI. COMPLEMENTARY ACTIVITIES

3 These actions being taken by Metropolitan lessen the demand for imported water and increase water
4 supply reliability:

- 5 ▪ Southern California investments of more than \$1.2 billion in water conservation
6 and water recycling (includes 1.6 million ultra-low-flush toilets, 3.2 million low-
7 flow showerheads, and 15,500 water efficient clothes washers)
- 8 ▪ Metropolitan investments of over \$226 million to help develop more than
9 151,000 acre-feet per year of additional water supplies from local water recycling,
10 groundwater clean-up and water conservation programs
- 11 ▪ Metropolitan execution of 22 agreements to provide financial assistance to pro-
12 jects that recover contaminated groundwater with total contract yields of about
13 81,500 acre-feet per year
- 14 ▪ Metropolitan execution of 53 agreements to provide financial assistance to pro-
15 jects that recycle water with total contract yields of about 233,400 acre-feet per
16 year
- 17 ▪ Through the development of cooperative Local Groundwater Storage Programs,
18 Metropolitan currently has 240,000 acre-feet of water in storage as of the end of
19 February 2002
- 20 ▪ Water transfers involving State Water Project water with San Bernardino Valley
21 Municipal Water District, Semitropic Water Storage District, and Arvin-Edison
22 Water Storage District that can provide up to 90,000 acre-feet per year during a
23 dry period
- 24 ▪ Considering additional water transfer agreements with interested parties in Cali-
25 fornia's Central Valley
- 26 ▪ Construction of the \$2.1 billion, 800,000 acre-foot Diamond Valley Lake storage
27 reservoir, doubling the amount of surface storage available in southern California
- 28 ▪ Construction of the Inland Feeder Project at an estimated construction cost of

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\$1.2 billion to provide greater water supply management opportunities.

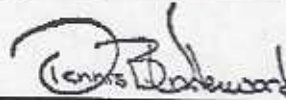
These are only the highlights of the diverse programs being carried out by Metropolitan to help meet its, the Agencies, and the State's water supply needs. Metropolitan is committed to the Proposed Quantification Settlement Agreement, maintaining the Colorado River Interim Surplus Guidelines for the full interim period, and implementing the California Plan to allow California to reduce its dependence on Colorado River water.

It is imperative that the California Plan components that will enable the state to meet the requirements of the Interim Surplus Guidelines succeed. The Interim Surplus Guidelines are vital to a controlled reduction in California's use of the Colorado River. For this reason there is great urgency in reaching a resolution on these matters that are before this Board.

This concludes my written testimony.

I declare under perjury pursuant to the laws of the State of California that the foregoing is true and correct.

Executed on March 25, 2002, at Los Angeles, California.



Dennis B. Underwood, Vice President, Metropolitan Water District of Southern California