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STATE WATER RESOURCES CONTROL BOARD

STATE OF CALIFORNIA

IMPERIAL IRRIGATION DISTRICT  
and SAN DIEGO COUNTY WATER  
AUTHORITY,

Petitioners.

**STATEMENT OF EXPERT QUALIFICATION  
AND WRITTEN TESTIMONY OF  
JESSE P. SILVA IN SUPPORT OF IID-  
SDCWA JOINT LONG-TERM TRANSFER  
PETITION**



1 anything not covered in this testimony that the SWRCB would like  
2 answered, I will be present at the hearings and will be glad to  
3 answer any such questions. I address issues related mostly to  
4 Phase I in this hearing, though I do touch on a few Salton Sea  
5 matters as they pertain to operational issues.

6 3. The matters I testify to here are presented by me both  
7 as someone who has first-hand knowledge of the matters addressed,  
8 and also as an expert on IID's organization, overall operations,  
9 and water management and use. During the course of this  
10 testimony, I authenticate and explain IID exhibits relating to  
11 the topics discussed; at the end of my testimony, I address a  
12 number of additional exhibits. I am familiar with IID's records  
13 presented here, and my office is one of the custodians of such  
14 records.

15 **A. General Overview Of IID**

16 4. The IID is a major irrigation district covering most of  
17 the Imperial Valley of Southern California, near the Colorado  
18 River and the Arizona border. IID currently has about 1100  
19 employees. We are in charge of ordering, diverting, and  
20 distributing approximately 3.2 million acre-feet of water from  
21 the Colorado River every year. The IID's irrigation system is  
22 principally a gravity-flow system that includes the 82-mile All-  
23 American Canal, as well as almost 1,700 miles of other canals,  
24 numerous reservoirs, over 1,400 miles of drain ditches, and  
25 almost 34,000 miles of tile drains (piped drains under the  
26 irrigated fields that allow saline water from leaching to be  
27 carried away). Attached to IID's Lodgment of Exhibits as IID  
28 Exh. 8 is a true and accurate copy of a general map of the

1 Imperial Irrigation District, while attached as IID Exh. 9 is a  
2 map showing the extensive number of headgates to which we deliver  
3 water.

4 5. The IID is also the provider of power to most of  
5 Imperial County, as well as portions of Riverside and San Diego  
6 Counties. Some of this power is generated by the movement of  
7 water through our water delivery system.

8 6. The IID is governed by a five-person Board of  
9 Directors. Each Director is elected by popular vote of the  
10 entire IID water service area, and they serve staggered four-year  
11 terms. Beneath the Board of Directors, and answering directly to  
12 them, are the General Manager (me) and IID's Chief Counsel, John  
13 Carter. Under the General Manager are the Executive Officer, the  
14 Chief Financial Officer, and the Assistant General Manager. Also  
15 answering directly to the General Manager are the heads of our  
16 various Departments: Water, Power, General Services, Finance,  
17 Information Systems, Resource & Management Planning, Human  
18 Resources, and Public Affairs.

19 7. The water we divert from the Colorado River is used  
20 primarily for irrigation in the Imperial Valley. Though the land  
21 is incredibly fertile, the climate is very hot, and thus water is  
22 the lifeblood of our Valley. Other than very minimal rainfall,  
23 the Colorado River is the sole source of water for the Imperial  
24 Valley. The IID, as the distributor of the water, therefore  
25 plays a critical role in the Valley.

26 8. Because of Colorado River water, the Imperial Valley  
27 has developed a \$1 billion agricultural industry. Agriculture is  
28 the primary engine of the Imperial Valley economy. Numerous

1 field, vegetable, and permanent crops are grown each year on  
2 approximately 500,000 acres of irrigated farmland. (Examples of  
3 such crop types are hay, lettuce, and citrus trees,  
4 respectively.) Such crops are very diverse, from sugar beets to  
5 alfalfa, carrots to onions. The fact that we have ample sunshine  
6 virtually year-round allows us to grow crops throughout every  
7 season.

8 9. The crop mix can dramatically change over time in the  
9 Imperial Valley, thus causing changes in water needs. For  
10 example, 70 years ago English peas were a major crop in the  
11 Imperial Valley, with 12,000 acres under production. Today,  
12 however, virtually no English peas are grown. Similarly, in the  
13 early 1960's about 60,000 acres of cotton were grown in the  
14 Imperial Valley, yet today about 13,000 are producing cotton.  
15 Other crops are at the opposite end of the spectrum, showing  
16 dramatic increases over the years. For example, in 1966 there  
17 were only about 515 acres planted with Sudan Grass, yet today  
18 there are about 50,000 acres producing Sudan Grass. This kind of  
19 change and evolution of crops grown will continue in the future  
20 in response to the change and evolution in crop markets, seed  
21 types, and the development of domestic and international  
22 competition.

23 10. Attached to IID's Lodgment of Exhibits as IID Exh. 10  
24 is a true and accurate copy of Imperial County's Agricultural  
25 Crop And Livestock Report for the year 2000. This County report  
26 provides useful basic data about agriculture in our valley.

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1 **B. IID's Water Rights**

2 11. The IID diverts and uses its water under longstanding  
3 federal and state water rights. The Petition details IID's water  
4 rights, so I will not address IID's rights per se. However, I  
5 believe it is vital for the SWRCB to understand that the people  
6 who live in the Imperial Valley view the IID's water rights as  
7 the cornerstone of our community. A threat to IID's water rights  
8 is a threat to the vitality and sustainability of our rural  
9 community. Thus, the proposed transfer has raised significant  
10 discussion in the Valley. A common concern voiced by everyone  
11 is, "Protect our water rights." IID is aware that it holds the  
12 water rights in trust for the Imperial Valley, and it is acting  
13 in the most responsible manner it knows how to use those water  
14 rights wisely. It is critical to IID that in the pending  
15 transfers to SDCWA, and the acquisitions by CVWD and MWD, that  
16 all of IID's water rights be protected. Thus, we have attempted  
17 to structure the transaction in a manner that will do so, and we  
18 seek SWRCB concurrence on that issue.

19 12. The volume of IID's water use has varied over the  
20 years. Though some have argued that IID's agreement to quantify  
21 its water right at 3.1 million acre-feet per year is not  
22 significant, it is. IID's water use varies based on many  
23 factors, such as crop markets, climate, water salinity, and  
24 insect infestation. For example, our water use reached almost  
25 3.5 million acre-feet per year in 1953-1954. It also dropped  
26 below 2.0 million acre-feet during the Great Depression. In 1992  
27 we had a serious whitefly infestation which reduced water usage.  
28 (See the Natural Resources Consulting Engineers ("NRCE") report,

1 IID Exh. 2, page V-3, Table V-1, for example, where one can see  
2 the 1992 drop-off.) There is substantial variation in our water  
3 needs from year to year. Thus, our voluntary agreement to cap  
4 our Priority 3 water right is a significant concession. Attached  
5 to IID's Lodgment of Exhibits as Exh. 11 is a true and accurate  
6 copy of a water use chart compiled from the Bureau of Reclamation  
7 ("Bureau") Colorado River Use Database, Lower Colorado Region.  
8 It shows IID's Colorado River water usage over the years (from  
9 the Bureau's records), and one can graphically see how such use  
10 fluctuates over time.

11 **C. IID's Water Delivery System**

12 13. IID diverts water from the Colorado River at the  
13 Imperial Dam, and the water then runs through the All American  
14 Canal ("AAC") for use in IID and in CVWD. Because we are so far  
15 downstream on the Colorado River, and because of streambed  
16 erosion, the water that reaches the Imperial Dam contains a  
17 substantial amount of silt. To reduce the amount of sediment, a  
18 series of desilting basins are employed. These basins remove  
19 about 70,000 tons of silt per day from the Colorado River, prior  
20 to diversion into the AAC. The desilted water flows past the  
21 Pilot Knob check structure, where a portion of the water returns  
22 to the river to satisfy water needs for Mexico.

23 14. Past that point, the AAC serves IID and CVWD. Almost  
24 all of IID's water has been supplied through the AAC since 1942.  
25 The AAC is an earthen canal.<sup>1</sup> Upstream of the first major  
26 diversion from the AAC to IID, water is diverted to the Coachella

27

28 <sup>1</sup> Both California and the United States have proposed lining the AAC.

1 Canal to serve CVWD. The amount of water diverted to the  
2 Coachella Canal is approximately 10% of the total Colorado River  
3 diversion amount.

4 15. From the diversion at Imperial Dam, water flows down  
5 the AAC for 53 miles until the flow is split between the East  
6 Highline Canal and the continuing branch of the AAC. From these  
7 canals, water is distributed throughout IID's Holtville, North  
8 and Southwest Divisions by six main canals: the East Highline,  
9 Central Main, Westside Main, Briar/New Briar Canal, Rositas Canal  
10 and the Vail Canal. This distribution system is owned and  
11 operated by the IID, and includes seven regulating reservoirs and  
12 three interceptor reservoirs.

13 16. All of IID's water orders are placed with the Bureau  
14 many days in advance, so as to comply with requirements set by  
15 the Bureau, which has to release water from Lake Mead to travel  
16 hundreds of miles downriver to Imperial Dam. Our order is placed  
17 each Wednesday with the Bureau for the next week (Monday to  
18 Sunday). The water orders we make with the Bureau are based on  
19 our staff's estimates of our farmer's demands. These estimates  
20 are determined by historical need, weather conditions, and  
21 cropping patterns. In addition, since any unused water has no  
22 place to go to except for the Salton Sea, our order is reduced  
23 from the expected orders by 20%. That assures that we have only  
24 minimal extra water, if any. Normally, our farmers order water  
25 from us one to two days in advance of delivery. Water orders are  
26 available to the irrigators in 12-hour time blocks.

27 17. Once water is diverted into IID's canals, the vast  
28 majority of it is ultimately delivered to farmers. About 90% of

1 the water entering IID enters the farmers' headgates as order  
2 deliveries, while the remaining 10% is lost through seepage,  
3 evaporation, and spills. From my experience in water management,  
4 I can tell you that this is a very low percentage of loss, given  
5 the volumes of water involved and the terrain and gravity system  
6 used. This subject is discussed in further detail by NRCE in  
7 their report.

8 18. Drainage water from IID fields is collected by  
9 subsurface drains and surface canals that empty directly into the  
10 Salton Sea, or that empty into the New and Alamo Rivers, which  
11 eventually flow into the Salton Sea.

12 19. Operation of IID's main canal system has evolved  
13 extensively over the years. Initially, the system was controlled  
14 manually by field personnel, who routed water on-site by electric  
15 powered gates or manual gate lifts. Beginning in the late  
16 1950's, remote-control equipment was installed and operated  
17 through telephone lines, which provided better control along main  
18 canals. Water delivery equipment for the AAC and for the  
19 upstream half of IID's main canals is now controlled remotely  
20 from IID Headquarters.

21 20. Beginning in the late 1980's, IID began to replace  
22 approximately half of the old remote-controlled systems in the  
23 field and at the control office with computerized equipment.  
24 Telephone communication links were also replaced with a  
25 radio/microwave communication network. This type of  
26 communication network provides automated operation of field  
27 sites, along with monitoring and control capabilities directly  
28 from the control room.

1           21. Our modern \$3 million Water Control Center became fully  
2 operational in September of 1993. The 10,000 square-foot  
3 building located at IID Headquarters now houses all the hardware  
4 and software used to regulate automated gates for water delivery  
5 and to collect information needed to verify water savings.

6           22. As an example of how we monitor our water flow,  
7 attached to IID's Lodgment of Exhibits as IID Exh. 12 is a true  
8 and accurate copy of a blank daily water record/main canal  
9 summary lineup sheet. This form allows for a real-time written  
10 record of water flows in our system. IID's Water Control Center  
11 uses it to line up deliveries to lateral canals, based on  
12 individual water user orders for the day. Then the lateral canal  
13 orders are combined to set main canal flows. All off-schedule  
14 changes in flow (reductions and additions) are recorded on the  
15 sheet so that operators know where they are "short" (need  
16 additional water) and where they are "long" (have additional  
17 water). To an operator, it is like a map of the system with an  
18 overlay showing flow rates in all the canals. It is a management  
19 tool used to track flows and changes in flows and to manage water  
20 to minimize operational discharges. An experienced operator  
21 knows the water travel times from point to point and how long it  
22 takes to alter a flow change at a given point and send water to  
23 another point (such as a reservoir). As to the larger canals and  
24 reservoirs the sheet has been somewhat replaced by our modernized  
25 SCADA system and electronic data (which perform a similar  
26 function on computer), but it is still an important daily water  
27 management tool for our system operators.

28

1           23. Attached to IID's Lodgment of Exhibits as IID Exh. 13  
2 is a true and accurate copy of numerous sample reporting forms  
3 used in IID. These forms are utilized by IID to keep track of  
4 various activities which need accurate record-keeping, such as  
5 diversions, water orders, canal operations, etc. Though this  
6 "sample" set is not exhaustive, it is intended to provide the  
7 SWRCB with a sense of the voluminous record-keeping involved in  
8 monitoring water operations in IID.

9           24. Attached to IID's Lodgment of Exhibits as IID Exh. 14  
10 is a true and accurate copy of the IID Water Department's 2001  
11 delivery summary, which details our deliveries last year.

12 **D. On-Farm Water Use**

13           25. The water available to IID at Imperial Dam has been  
14 used and reused many times by upriver users, and is therefore of  
15 higher salinity than points upstream. Colorado River water at  
16 Imperial Dam has an average salinity of more than one ton of salt  
17 per acre-foot of water. To maintain acceptable soil salinity for  
18 crop growth, our farmers need to apply water in excess of the  
19 amount directly consumed by their crops, because they must use  
20 sufficient water to leach salts from the soil.

21           26. IID is presenting the SWRCB with extensive evidence of  
22 how water is used in Imperial Valley in the NRCE Report (IID  
23 Exh. 2). However, the following is a very broad picture of what  
24 happens "on farm": The water delivered by IID arrives at a  
25 farmer's headgate. At the appropriate time, the headgate is  
26 opened, and the field is irrigated. Water flows both  
27 horizontally on the surface to the end of the field, and seeps in  
28 vertically. If the water is being used to leach the field

1 between crops, it can be left to pond, in order to leach  
2 vertically over some time. However, if there is a growing crop,  
3 the water usually cannot be allowed to remain on the field for  
4 too long, or the crops will be damaged. Thus, at the appropriate  
5 time, the water that does not soak through the soil vertically is  
6 allowed to run off the end of the field as tailwater.

7 27. As explained more fully by NRCE, because the water  
8 travels across the field horizontally, it picks up salts from the  
9 surface and in cracks and carries these salts to the "tail" end  
10 of the field. Thus, the lower end of the field is irrigated with  
11 water that carries a higher salt content than the water used at  
12 the head of the field. In addition, the water has less time to  
13 infiltrate into the soil to leach salts. For this reason, a  
14 farmer needs to use extra water on the lower end of the field to  
15 make sure it remains productive.

16 28. The water that leaves the field on the surface leaves  
17 as "tailwater," while that which percolates below the surface is  
18 caught by tile drains and leaves as "tilewater." Both types of  
19 water end up discharging into the Salton Sea. IID monitors this  
20 outflow to the Sea, as well as deliveries made to farmers.

21 29. The different kinds of irrigation methods employed in  
22 IID are discussed in detail in NRCE's Report. IID is always open  
23 to reviewing new farming methods, and discusses different  
24 irrigation options with farmers. Over the years IID has worked  
25 in conjunction with farmers and scientists to run numerous pilot  
26 programs related to improving on-farm irrigation efficiency.  
27 Such programs include tailwater pumpback systems, land leveling,  
28 drip irrigation, and other experimental programs. Though such

1 methods show promise, there are many limitations to each, and  
2 they tend to be expensive.

3 **E. IID's Conservation Efforts**

4 30. Over the past 50 years, the IID and its conservation  
5 partners and member farms have invested over \$600 million (1996  
6 dollars) to improve water use efficiency. Water conservation  
7 measures have included lining canals with concrete, construction  
8 of reservoirs and interceptor canals, canal seepage recovery  
9 pipelines, water order and administrative procedures, and  
10 improved irrigation management measures.

11 31. In December 1988, pursuant to the SWRCB's instructions  
12 to IID to seek urban funding for major conservation programs, the  
13 IID and MWD entered into a water conservation agreement that  
14 allowed MWD to invest in water conservation measures in the  
15 Imperial Valley in exchange for use of the conserved water.  
16 Attached to IID's Lodgment of Exhibits as IID Exh. 15 is a true  
17 and accurate copy of the IID-MWD transfer agreement, while  
18 attached as IID Exh. 16 is a true and accurate copy of the  
19 Approval Agreement by which CVWD and Palo Verde Irrigation  
20 District approved the IID/MWD transfer.

21 32. MWD financed the construction, operation and  
22 maintenance of the conservation projects selected, at a project  
23 cost of \$233 million (1988) dollars. The program included canal  
24 concrete lining, regulatory reservoirs, 12-hour deliveries,  
25 nonleak gates, system automation, lateral interceptors and on-  
26 farm irrigation water management. These IID-MWD conservation  
27 projects in Imperial Valley now save approximately 108,000 acre-  
28 feet of water annually. This water is made available to MWD.

1 Attached to IID's Lodgment of Exhibits as IID Exh. 17 is a true  
2 and accurate copy of IID's "Final Program Construction Report"  
3 for the water conservation program between IID and MWD. This  
4 document summarizes the history of the IID-MWD conservation  
5 program, the work that has been done under that program, and the  
6 conservation achieved.

7 33. Attached to IID's Lodgment of Exhibits as IID Exh. 18  
8 are true and accurate copies of IID conservation reports and  
9 correspondence between IID and the SWRCB regarding the MWD/IID  
10 conservation program, along with a summary chart of verified  
11 water conservation under the program. The conservation is  
12 monitored by a panel that includes an MWD member.

13 34. Attached to IID's Lodgment of Exhibits as IID Exh. 19  
14 is a true and accurate copy of IID's water conservation plan for  
15 1985, and the June 1986 update. These documents provide a useful  
16 historical overview of what IID's conservation concerns were in  
17 the mid 1980's, all of which are precursors to transfers such as  
18 that proposed with SDCWA today.

19 35. Even though IID is allowed by law to drain its  
20 irrigation water into the Salton Sea, we attempt to conserve  
21 water wherever we can, because we are constantly being sued for  
22 flooding caused by the elevation of the Salton Sea. IID has  
23 already paid approximately \$20 million to settle assorted Salton  
24 Sea flooding claims. Furthermore, we have had to buy numerous  
25 properties, construct and maintain expensive diking structures<sup>2</sup>,

26 \_\_\_\_\_  
27 <sup>2</sup> For example, we have had to build and maintain about 16 miles  
28 of dikes to protect farmland and certain residential areas next  
to the Salton Sea. Though such preventative measures limit  
flooding, they are expensive, and they always carry the risk  
that liability may still be imposed on IID.

1 and take other similar actions to reduce our liability exposure.  
2 Thus, water conservation and reduced inflow to the Salton Sea are  
3 very important goals for IID. The more IID water flows to the  
4 Salton Sea, the more landowners seek to sue us for flooding, and  
5 the more burdensome protective measures become. Attached to the  
6 IID Exhibits as IID Exh. 20 is an historical overview chart of  
7 IID system and on-farm conservation measures (as well as  
8 conservation methods in the IID-MWD program), many of which were  
9 implemented to comply with the SWRCB's directives in the 1980's  
10 to conserve water, improve efficiency, and seek out potential  
11 urban water transferees.

12 36. IID has received various awards for its conservation  
13 efforts and irrigation efficiency. For example, in 1991 IID won  
14 the Clair A. Hill Water Agency Award for Excellence presented by  
15 ACWA (Association of California Water Agencies), and in 2000 I  
16 was presented with ACWA's Excellence in Water Leadership Award.

17 **F. The Proposed Transfer To San Diego**

18 37. I was an IID Water Department employee in the 1980's  
19 when the SWRCB issued its decisions regarding IID. They had a  
20 significant impact on our district. The IID certainly understood  
21 the message from the SWRCB: improve efficiency, and if you  
22 cannot fund such improvement yourself, seek out water transferees  
23 who can. The 1998 IID-MWD agreement was a direct result of such  
24 instruction from the SWRCB. However, that agreement was to  
25 conserve only about 106,000 acre-feet of water per year; Water  
26 Rights Order 88-20 stated that there was a possible 367,900 acre-  
27 feet of water that could be conserved in IID per year (p.44).  
28 Thus, after IID entered into its water transfer with MWD, it

1 continued to look for further funding for additional water  
2 conservation. In the early 1990's the SDCWA expressed an  
3 interest in a water transfer with IID. After some negotiations,  
4 a proposal was publicly announced in 1995. The proposed IID  
5 transfer with SDCWA is in further compliance by IID with the  
6 SWRCB's earlier decisions and directives.

7 38. The water conservation and transfer agreement with  
8 SDCWA ("Proposed Transfer Agreement") will greatly benefit  
9 California, Imperial, and San Diego counties. For San Diego, a  
10 reliable, independent water supply is acquired for a large urban  
11 area. However, the Proposed Transfer Agreement is important for  
12 our Valley as well, since it will result in an inflow of capital  
13 into our region. IID can use the money provided by the transfer  
14 to further modernize and upgrade our delivery system. The  
15 farmers can use the added funds to improve their agricultural  
16 efficiency.

17 39. No one in the IID would claim that overall water  
18 delivery and on-farm irrigation are perfectly efficient or could  
19 not be improved. However, increasing efficiency is a matter of  
20 cost and of diminishing returns. Whether one is talking about  
21 system improvements such as canal lining, or on-farm changes such  
22 as (where appropriate) tailwater pumpback systems, efficiency  
23 improvement always carries a price tag. As a public agency, the  
24 IID can not just absorb increased costs, but must pass them on to  
25 the buying public -- in this case mostly farmers. Up until the  
26 1988 MWD-IID conservation program, IID water users paid for the  
27 conservation. The earlier 1988 MWD-IID conservation program  
28 effectively implemented most of the lower-cost conservation

1 opportunities and left many of the higher-cost options undone.  
2 Funding from water transfers provides the means by which further  
3 conservation can be accomplished. Thus, in IID's view, the  
4 proposed water transfer is a "win-win" transaction: the SDCWA  
5 receives a reliable water supply, while Imperial Valley receives  
6 the financial means to continue to improve its water management.

7 40. A true and accurate copy of the Proposed Transfer  
8 Agreement and its amendments are attached to IID's Lodgment of  
9 Exhibits as Exh. 7. The terms of the Proposed Transfer Agreement  
10 are self-explanatory, and the SWRCB certainly has no need for me  
11 to restate them here. However, the SWRCB should know that the  
12 proposed transfer is the product of many years of hard work by  
13 numerous parties. Millions of dollars were spent by all of us in  
14 hammering out this proposed transfer, and in negotiating  
15 additional agreements such as the QSA and PDA (addressed below).  
16 This transaction is not one that was rushed into by either side,  
17 and it comes to the SWRCB after much effort by everyone involved.

18 41. The methodology to be used in the on-farm portion of  
19 the water conservation envisioned by the Proposed Transfer  
20 Agreement has not yet been fully developed. Like the IID-MWD  
21 transfer which preceded it, the proposed transfer to San Diego  
22 must be implemented so as to save water in a verified manner, but  
23 also meet the needs of farmers and our community. Flexibility  
24 will be necessary to respond to changing opportunities and  
25 problems that may arise during the long term of the transfer.

26 42. Other than fallowing, which is prohibited under the  
27 Proposed Transfer Agreement, IID has not ruled out any  
28 conservation options under the proposed transfer program. IID

1 would prefer to allow farmers as much flexibility as possible.  
2 For example, say a farmer signed up for the program (which is  
3 voluntary) and implemented a tailwater pumpback system. Perhaps  
4 after ten years of saving water under that method, he determines  
5 that he can save the same amount with drip irrigation because he  
6 is switching crops. So long as the amount of conservation can be  
7 verified, he should be allowed to make such a switch. The  
8 farmers generally know their own land better than anyone else,  
9 and should be allowed to utilize such knowledge.

10 43. In regards to system improvements, if the transfer is  
11 approved, IID expects to implement many of the conservation  
12 improvements not made under the 1988 IID-MWD deal, such as  
13 additional reservoirs to increase water control capability and  
14 lateral interceptors to reduce water lost to operational spills.

15 44. IID is reviewing conservation options and impacts not  
16 only with staff and farmers, but also with the general public.  
17 We have set up a Citizens Advisory Committee made up of local  
18 members of the community. Attached to the IID Lodgment of  
19 Exhibits as Exh. 21 is a true and accurate list of its current  
20 members, who represent a wide diversity of interests in the  
21 Valley.

22 45. IID understands the need for conservation verification.  
23 The transfer with the SDCWA is designed as a "wet water"  
24 transfer; i.e., genuinely conserved water will be transferred.  
25 To ensure that system and on-farm conservation will take place,  
26 diversions to IID will be reduced at Imperial Dam by the amount  
27 conserved for San Diego (and MWD, for water it receives under the  
28 QSA, as addressed below). For on-farm conservation, headgate

1 deliveries will be monitored and compared to pre-conservation  
2 history to verify the amount of conserved water created. To the  
3 extent that CVWD receives water under the QSA, IID diversion  
4 reductions at Drop 1 will also be monitored.

5 46. Under the Proposed Transfer Agreement, IID is to enter  
6 into contracts with landowners within 120 days after a number of  
7 conditions are met (Proposed Transfer Agreement, p.45, ¶ 8.1(c),  
8 for example). After this Petition process is concluded, IID will  
9 continue to develop the conservation and implementation plan.

10 **G. The Settlement Of Inter-Agency Disputes**

11 47. As the SWRCB is no doubt aware, over the years IID has  
12 had its share of disputes with MWD and the CVWD. The feeling in  
13 our Valley was that both were always seeking to grab our water.

14 48. However, in October of 1999, IID, MWD, SDCWA, the State  
15 of California, and the Bureau issued key terms for a  
16 quantification settlement of Colorado River water use issues, and  
17 subsequently developed the proposed Quantification Settlement  
18 Agreement ("QSA"). This proposed agreement represents a major  
19 advance in Colorado River water use by seeking to maximize the  
20 beneficial use of California's basic apportionment through water  
21 transfers, conservation and improved water management.  
22 Furthermore, it required a concerted effort on the part of all  
23 agencies involved, including long-time adversaries IID, MWD, and  
24 CVWD, to put aside their differences and work for the common  
25 good.

26 49. Implementation of the QSA would not affect the  
27 diversion, distribution, and/or use of Colorado River water  
28 outside California. Within California, the QSA would only affect

1 Colorado River water use by the participating agencies (CVWD,  
2 IID, MWD, and SDCWA). The QSA quantifies, by agreement, the  
3 amount of Colorado River water available to the participating  
4 agencies and calls for specific distribution of that water among  
5 the agencies for the quantification period, a maximum of 75  
6 years. However, without a successful IID-SDCWA transfer, there  
7 is no QSA and no IID quantification at 3.1 million acre-feet per  
8 year.

9       50. The QSA anticipates a transition period of  
10 approximately 25 years for the full implementation of water  
11 conservation/transfers and exchange projects. Many of the water  
12 conservation and transfer components of the QSA would be  
13 implemented incrementally over a period of several years. The  
14 conservation payments to IID under the QSA are below the costs of  
15 some conservation methods, such as tailwater pumpback systems. A  
16 true and accurate copy of the current draft of the QSA is  
17 attached to IID's Lodgment of Exhibits as Exh. 22, as well as  
18 true and accurate copies of the current drafts of the Agreement  
19 for Acquisition of Conserved Water between IID and CVWD, the  
20 Agreement for Acquisition of Conserved Water between IID and MWD,  
21 the Agreement for Acquisition of Water between CVWD and MWD, and  
22 the Implementation Agreement, all of which are proposed  
23 agreements related to the overall settlement.

24       51. Pursuant to the QSA, an extra 100,000 acre-feet per  
25 year will be conserved by IID and acquired by CVWD and/or MWD for  
26 use within their respective service areas. To the extent the  
27 conserved water is acquired by CVWD, the point of diversion will  
28 continue to be the Imperial Dam, and the purpose of use will

1 remain unchanged. To the extent the conserved water is acquired  
2 by MWD, the point of diversion will be at Lake Havasu, and the  
3 purpose of use will be primarily municipal.

4 52. In addition to the QSA, agreement was also reached on a  
5 Protest Dismissal Agreement ("PDA"). The PDA addresses removal  
6 of protests to this Petition by MWD and CVWD, in return for  
7 certain concessions by IID. IID has agreed to the terms of the  
8 QSA and PDA, because it believes the concessions IID grants in  
9 those agreements are outweighed by the benefits of the proposed  
10 transfer with San Diego. A true and accurate copy of the PDA is  
11 attached to IID's Lodgment of Exhibits as Exh. 23.

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53. The following is a summary chart of the ramp-up transfer and acquisition schedule under the various settlement documents:

**IID WATER TRANSFER AND ACQUISITION SCHEDULE**  
 (assuming Conditions Precedent Satisfied 2002 and 200 KAF transfer to SDCWA)  
 All volumes in KAF/year

Year	Total	IID/SDCWA	IID/MWD	IID/CVWD*
2003	20	20	0	0
2004	40	40	0	0
2005	65	62.5	2.5	0
2006	90	85	5	0
2007	110	102.5	2.5	5
2008	130	120	0	10
2009	155	140	0	15
2010	180	160	0	20
2011	205	180	0	25
2012	230	200	0	30
2013	235	200	0	35
2014	240	200	0	40
2015	245	200	0	45
2016	250	200	0	50
2017	255	200	0	55
2018	260	200	0	60
2019	265	200	0	65
2020	270	200	0	70
2021	275	200	0	75
2022	280	200	0	80
2023	285	200	0	85
2024	290	200	0	90
2025	295	200	0	95
2026	300	200	0	100
2027	300	200	0	100
2028-2046	300	200	0	100
2047-2076	250	200	0	50

\* or MWD if CVWD declines to acquire

1 **H. IID Exhibits**

2 54. The rest of this testimony pertains to authenticating  
3 and explaining IID exhibits not covered above. The exhibits are  
4 categorized in topic groupings, as specified below.

5 **a. IID History**

6 55. Attached to IID's Lodgment of Exhibits as IID Exh. 24  
7 are true and accurate copies of IID's annual reports from 1994  
8 through 2000. These annual reports provide a very general  
9 overview of each year in IID, as well as IID's finances.

10 56. Attached to IID's Lodgment of Exhibits as IID Exh. 25  
11 is an IID video presentation called, "Abundance From The Desert  
12 Floor." Though the video is aimed at the general public, and  
13 thus is not highly sophisticated, it provides a basic overview of  
14 the Imperial Valley's water history and how IID operates today.  
15 It also provides the SWRCB with a visual sense of IID's  
16 operations.

17 57. Attached to IID's Lodgment of Exhibits as IID Exh. 26  
18 is a true and accurate copy of the Seven-Party Water Agreement of  
19 August 18, 1931.

20 58. Attached to IID's Lodgment of Exhibits as IID Exh. 27  
21 are true and accurate copies of various State applications by IID  
22 to appropriate unappropriated water, and the permits issued by  
23 the State.

24 59. Attached to IID's Lodgment of Exhibits as IID Exh. 28  
25 is a true and accurate copy of the water delivery contract  
26 between IID and the United States dated December 1, 1932.

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1           60. Attached to IID's Lodgment of Exhibits as IID Exh. 29  
2 is a true and accurate copy of the 1934 Compromise Agreement  
3 between IID and CVWD.

4           61. Attached to IID's Lodgment of Exhibits as IID Exh. 30  
5 is a true and accurate copy of SWRCB Decision 1600.

6           62. Attached to IID's Lodgment of Exhibits as IID Exh. 31  
7 is a true and accurate copy of SWRCB Order 84-12.

8           63. Attached to IID's Lodgment of Exhibits as IID Exh. 32  
9 is a true and accurate copy of SWRCB Order 88-20.

10           **b. Agriculture In IID**

11           64. Attached to IID's Lodgment of Exhibits as IID Exh. 33  
12 is an IID public information video presentation called, "Salinity  
13 In The Imperial Valley." This video provides useful footage of  
14 salt leaching in our area, and it discusses the makeup of IID  
15 soils. These topics are detailed more fully in NRCE's Report,  
16 IID Exh. 2.

17           **c. IID Operations**

18           65. Attached to IID's Lodgment of Exhibits as IID Exh. 34  
19 is a true and accurate copy of IID's Water Department Water  
20 Information Bulletin for the year 2000. This document provides a  
21 good general overview of IID's Water Department operations.

22           66. Attached to IID's Lodgment of Exhibits as IID Exh. 35  
23 is a true and accurate copy of IID fact sheets which provide the  
24 SWRCB with some useful overview information about various aspects  
25 of the IID. These fact sheets are handed out to the public by  
26 the IID.

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1           67. Attached to IID's Lodgment of Exhibits as IID Exh. 36  
2 is a true and accurate copy of IID's Annual Inventory of Areas  
3 Receiving Water for 1989 through 2000.

4           68. Attached to IID's Lodgment of Exhibits as IID Exh. 37  
5 is a true and accurate copy of IID's Resolution No. 18-87 and the  
6 accompanying "Rules Regarding Tailwater Assessments and Delivery  
7 adjustments to conserve water." This document is provided to the  
8 SWRCB to show that IID implemented, and still has in effect, a  
9 15% tailwater limitation. However, based upon the recent  
10 detailed research by NRCE specified in their Report (IID Exh. 2),  
11 which indicates that on some fields 15% tailwater is too low  
12 because of high salinity and the need for horizontal leaching of  
13 cracking soils, IID will be reconsidering this policy. It may  
14 well be that tailwater below 15% should be required on certain  
15 sandier soils, but tailwater in excess of 15% should be allowed  
16 on soils that are more difficult to leach vertically.

17           69. Attached to IID's Lodgment of Exhibits as IID Exh. 38  
18 is a true and accurate copy of IID's water rates schedules for  
19 various years.

20           70. Attached to IID's Lodgment of Exhibits as IID Exh. 39  
21 is a true and accurate copy of IID's "Rules and Regulations  
22 Governing the Distribution and Use of Water (revised April  
23 2001)." This document is a good overview of IID's rules and  
24 regulations on water use.

25           71. Attached to IID's Lodgment of Exhibits as IID Exh. 40  
26 is a true and accurate copy of a set of documents, the first one  
27 of which is entitled "Processed Flow Data," which are examples of  
28 forms utilized by IID in tracking water use.

1           **d. IID Conservation**

2           72. Attached to IID's Lodgment of Exhibits as IID Exh. 3 is  
3 a true and accurate copy of NRCE's report entitled, "History of  
4 Water Conservation Within the Imperial Irrigation District."  
5 This report was prepared for IID by NRCE in 1998, and provides a  
6 useful overview of water conservation in our district.

7           73. Attached to IID's Lodgment of Exhibits as IID Exh. 41  
8 is a true and accurate copy of the Memorandum of Understanding  
9 Regarding Efficient Water Management Practices by Agricultural  
10 Water Suppliers in California, to which IID is a signatory. This  
11 agreement provides for a commitment to irrigation efficiency  
12 among the signatories.

13           **e. Water Transfer Issues**

14           74. Attached to IID's Lodgment of Exhibits as IID Exh. 42  
15 are true and accurate copies of speeches given by former  
16 Secretary of Interior Bruce Babbitt from 1996 through 2000 at the  
17 annual Colorado River Water Users Association meeting, and the  
18 2001 speech to the same audience given by Bennett Raley, the  
19 current Assistant Secretary for Water and Science. These  
20 speeches provide some background (from a federal perspective) of  
21 the need for California to reduce its reliance on Colorado River  
22 water in excess of 4.4 million acre-feet per year.

23           75. Attached to IID's Lodgment of Exhibits as IID Exh. 43  
24 is a true and accurate copy of the Department of Water Resources'  
25 ("DWR") bulletin from 1993 entitled, "Water Transfers in  
26 California: Translating Concept into Reality." This DWR  
27 publication discusses different types of agricultural

28

1 conservation measures, important water issues for the State, and  
2 expresses the State's interest in promoting water transfers.

3 76. Attached to IID's Lodgment of Exhibits as IID Exh. 44  
4 are true and accurate copies of various legislative analyses on  
5 water transfer legislation in recent decades which show the  
6 State's interest in furthering such transfers, and also the  
7 intent of the SWRCB and the State to further water transfers in  
8 IID. Over 480,000 acre-feet of water are referenced as being  
9 potentially available for transfer in IID. The applicable  
10 declarations from the Legislative Intent Service are also  
11 attached.

12 77. Attached to IID's Lodgment of Exhibits as IID Exh. 45  
13 is a true and accurate copy of the "California Water Plan Update,  
14 Bulletin 160-98," published by DWR. This report provides a  
15 summary of California's water needs, and where the DWR expects  
16 the State to move in the coming decades.

17 **f. Salton Sea Issues**

18 78. Attached to IID's Lodgment of Exhibits as IID Exh. 46  
19 are true and accurate copies of just a few of the civil  
20 complaints filed against IID in recent years for alleged flooding  
21 of Salton Sea shoreline areas. Obviously, we attempt to irrigate  
22 efficiently to avoid raising Salton Sea levels so as to deter  
23 such litigation.

24 79. Attached to IID's Lodgment of Exhibits as IID Exh. 47  
25 is a true and accurate copy of the recommendation of the  
26 Secretary of the Interior, and the following Executive Order  
27 signed by President Coolidge in 1924, indicating that the Salton  
28

1 Sea is to be used for "storage of waste and seepage water from  
2 irrigated land in Imperial Valley, California."

3 80. Attached to IID's Lodgment of Exhibits as IID Exh. 48  
4 is a true and accurate copy of Chapter 392, Statutes of 1968  
5 (Assembly Bill 461-Veysey), in which the Legislature found and  
6 declared, "That the primary use of the Salton Sea area is for  
7 collection of agricultural drainage, seepage, leaching and  
8 control waters."

9 81. Attached to IID's Lodgment of Exhibits as IID Exh. 49  
10 is a true and accurate copy of Salton Sea elevation levels from  
11 1990 through 2001, as measured by IID.

12 82. Attached to IID's Lodgment of Exhibits as IID Exh. 50  
13 are true and accurate copies of various SWRCB Resolutions from  
14 recent years (Resolutions 4-95, 18-95, 5-96, 10-98, 17-98, 9-99,  
15 3-2001, and 13-2001) relating to conservation and/or the proposed  
16 water transfer to San Diego.

17 83. Attached to IID's Lodgment of Exhibits as IID Exh. 51  
18 is a true and accurate copy of the Bylaws of the IID Water  
19 Conservation Advisory Board, while attached as Exhibit 52 is a  
20 true and accurate copy of our Board Resolution 79-1 detailing  
21 certain water use decisions by the Water Conservation Advisory  
22 Board.

23 84. Attached to IID's Lodgment of Exhibits as IID Exh. 52  
24 is a true and accurate copy of the Bureau of Reclamation's Draft  
25 Environmental Impact Statement -- Implementation Agreement,  
26 Inadvertent Overrun and Payback Policy, and Related Federal  
27 Actions, January, 2002, which the Bureau of Reclamation sent us  
28 this year.

1 I declare under penalty of perjury under the law of the  
2 state of California that the foregoing is true and correct.  
3 Executed on March 22, 2002, at Imperial, California.

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6 JESSE P. SILVA

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